

**ENVIRONMENTAL ASSESSMENT  
FOR THE  
GENERAL PLAN AND MAINTENANCE OF  
PATRICK AIR FORCE BASE, FLORIDA**

**May 2005**



**United States Department of the Air Force  
45th Civil Engineering Squadron (CES)  
Environmental Flight (CEV)  
Patrick Air Force Base, Florida**

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**FINDING OF NO SIGNIFICANT IMPACT (FONSI) FOR THE  
ENVIRONMENTAL ASSESSMENT FOR THE GENERAL PLAN AND MAINTENANCE OF  
PATRICK AIR FORCE BASE, FLORIDA**

**Proposed Action**

The Proposed Action is defined as the implementation of Patrick Air Force Base's (PAFB) General Plan with required base maintenance in support of the General Plan as well as the 45<sup>th</sup> Space Wing (45 SW) mission. The General Plan is the culmination of the installation's comprehensive planning process that occurs in five-year cycles. The General plan identifies the essential characteristics and capabilities of the base and assesses the potential for development in response to Air Force Space Command's (AFSPC) commitment to preserve its assets and protect the environment. As part of PAFB's development cycle, facilities will be used, maintained, and eventually demolished when repair costs are greater than new construction, potentially creating the need for replacement facilities. Eight Area Development Plans (ADP) were identified that sectioned PAFB into the North "Beach", Main Base, River Industrial, River Recreational, Airfield/AFTAC, Community Center, Marina/Golf, and a Trail Network. Additionally, integrated into General Plan actions are requirements to maintain the base's infrastructure and grounds.

In compliance with the National Environmental Policy Act of 1969 (NEPA) (42 United States Code § 4321 et seq.), the United States Air Force (USAF) prepared an Environmental Assessment for PAFB's General Plan and Maintenance (General Plan EA). The EA conforms to the Council on Environmental Quality and the U.S. Air Force regulations for implementing NEPA (40 Code of Federal Regulations (CFR) §§ 1500-1508, and 32 CFR 989, respectively). Only actions within the General Plan that do not have the ability to adversely impact areas of critical environmental concern and/or threatened and endangered species or local or regional communities will be covered under this FONSI. The General Plan EA is incorporated by reference.

**Alternatives Considered**

The only alternative considered was a No-Action Alternative that would mean continued maintenance of existing facilities, infrastructure and grounds at PAFB and no new construction of facilities in support of changing operational requirements. This alternative would have provided for operational support of various PAFB operations, but not at the efficiency level available from the proposed action. The mission need for operational planning support could be met under this alternative, but not in a comprehensive, synergistic manner. In addition, mission objectives could be jeopardized if adequate support was not planned in a timely fashion. Also, the safety requirement to eliminate facilities from the Airfield Clear Zone would not be met. Therefore, the No Action Alternative was not considered viable.



## **Environmental Effects**

The General Plan EA evaluated the environmental impacts of the installation's planning for use, maintenance, and construction of facilities as well as infrastructure and grounds upkeep during the plan's five-year cycle. The potential environmental effects were assessed for the following environmental resource areas: air quality, water quality, geology and soils, noise and airspace compatible use, biological/ecological resources, infrastructure and utilities, land use, socioeconomic, environmental justice, cultural resources, hazardous materials and waste, and safety and occupational health.

The Proposed Action will be conducted in accordance with all applicable federal, state, and local legislation and regulations. Best Construction Management Practices would be implemented to reduce or eliminate soil erosion and safeguard water quality. A conformity determination under the Clean Air Act is not required as PAFB is located in an area of attainment for the National Ambient Air Quality Standards.

The General Plan EA is not an all-inclusive document with respect to projecting potential future environmental impacts and only addresses reasonable foreseeable activities. However, the General Plan EA includes programmatic elements designed to support the evaluation of environmental impacts relating to future actions and plans that aren't found to have significant impacts to human health or the environment. Each proposed project within the eight ADPs will be analyzed separately by the PAFB EPF (45th SW CES/CEV, Environmental Flight) to determine environmental impacts, Federal and State permitting requirements and potential consequences, which could result in further environmental evaluation and permitting.

Site specific analyses, operational characteristics, and consultations with outside regulatory agencies will be performed by the PAFB EPF and weighed against the environmental impact analysis within the General Plan EA to determine if further documentation and evaluation is required. In addition, Executive Orders 11990 and 11988 require that wetlands and floodplains be avoided unless there is no practicable alternative. Any proposed project or activity in or adjacent to wetlands or floodplains will be evaluated separately, a Finding of No Practicable Alternative will be addressed and mitigation requirements will be met, if applicable.

## **Conclusion**

Implementation of PAFB General Plan actions that do not directly impact areas of critical environmental concern and/or threatened and endangered species or local or regional communities would result in no significant direct, indirect, or cumulative impacts on the quality of the natural or human environment. Environmental programs would be actively integrated with other planning and operational support



processes that will culminate in preservation of the mission as well as current and future installation requirements at PAFB. No significant impacts to human health or to the environment will result from implementation of the PAFB General Plan, and an Environmental Impact Statement will not be required.


The Proposed Action is currently deemed consistent with the Florida Coastal Management Program and the Air Force will ensure that the Proposed Action continues to be consistent to the maximum extent possible.

Comments or questions regarding this matter may be forwarded to:

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Approved Signature

MARK H. OWEN  
Colonel, USAF  
Commander

  
Date



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## ACRONYMS AND ABBREVIATIONS

µg	Microgram
45th CES	45th Civil Engineer Squadron
45th SW	45th Space Wing

### A

AAQS	Ambient Air Quality Standards
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Material
ADP	Area Development Plan
AF	Air Force
AFB	Air Force Base
AFETR	Air Force Eastern Test Range
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFMC	Air Force Material Command
AFMTC	Air Force Missile Test Center
AFPD	Air Force Policy Directive
AFS	AIR Force Station
AFSPC	Air Force Space Command
AFTAC	Air Force Technical Applications Center
AICUZ	Air Installation Compatible Use Zone
AMC	Air Mobility Command
AMSL	Above Mean Sea Level
AOC	Areas of Concern
APZ	Accident Potential Zone
APZ1	Accidental Potential Zone 1
APZ2	Accidental Potential Zone 2
ARG	Army Readiness Group
ARPA	Archeological Resources Protection Act
AST	Aboveground Storage Tanks
ATM	Asynchronous Transfer Mode
AVGAS	Aviation Gasoline

### B

BACT	Best Available Control Technique
BASH	Bird/Aircraft Strike Hazard
Bls	Below Land Surface





BX Base Exchange

**C**

CA California  
CAA Clean Air Act  
CATEX Categorical Exclusion  
CCAFS Cape Canaveral Air Force Station  
CEQ Council  
CES Civil Engineering Squadron  
CEV Civil Environmental Flight  
CFR Code of Federal Regulations  
CIP Capital Improvements Program  
CO Carbon Monoxide  
CWA Clean Water Act  
CZ Clear Zone

**D**

dB Decibel  
dBA Decibel A – A Weightless Logarithmic Scale  
DEOMI Defense Equal Opportunity Management Institute  
DLA Defense Logistics Agency  
DNL Day-Night Average Noise Level  
DoD Department of Defense  
DOS DOS  
DRMO Defense Reutilization and Marketing Office

**E**

EA Environmental Assessment  
EIAP Environmental Impact Analysis Process  
EIS Environmental Impact Statement  
EO Executive Order  
EPF Environmental Planning Function  
ER Eastern Range  
ESA Endangered Species Act  
ESMC Eastern Space and Missile Center  
ETR Eastern Test Range

**F**

FAC Florida Administrative Code  
FB Facilities Board



FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Planning Agency
FIRM	Flood Insurance Rate Map
FLANG	Florida Air National Guard
FNAI	Florida Natural Area Inventory
FONPA	Finding of No Practical Alternative
FONSI	Finding of No Significant Impact
FP&L	Florida Power and Light
FWS	U. S. Fish and Wildlife Service

## **G**

gpcd	Gallons Per Capita Per Day
GPD	Gallons Per Day

## **H**

HAPS	Hazardous Air Pollutants
HF	High Frequency

## **I**

IRL	Indian River Lagoon
INRMP	Integrated Natural Resource Management Plan
IRP	Installation Restoration Program

## **J**

JDMTA	Jonathan Dickinson Missile Tracking Annex
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## **K**

KV	Kilovolt
kVA	Kilovolt-Amperes
KW	Kilowatts

## **M**

m <sup>3</sup>	Meters Cubed
MBTU	Million British Thermal Units
MC	Minor Construction
MFH	Military Family Housing
MGD	Millions of Gallons Per Day
MHW	Mean High Water
MILCON	MILCON
mW	Mega Watt



## **N**

NAAQS	National Ambient Air Quality Standards
NAF	NAF
NASA	National Aeronautics and Space Administration
NCO	Non Commissioned Officer
NEPA	National Environmental Policy Act
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	Nitrogen Dioxide
NRHP	National Registry of Historical Places
NRMP	Natural Resources Management Plan

## **O**

OPLAN	Operations Plan
OSHA	Occupation Safety and Health Administration
O <sub>3</sub>	Ozone

## **P**

PAFB	Patrick Air Force Base
Pb	Lead
PCB	Poly Chlorinated Biphenyl
PM <sub>10</sub>	Particulate Matter - 10 Microns
PM <sub>2.5</sub>	Particulate Matter - 2.5 Microns
PPM	Parts Per Million
PSIG	Pounds Per Square Inch Gage
PTE	Potential to Emit
PVC	Poly Vinyl Chloride

## **R**

RQW	Rescue Group Wing
RV	Recreational Vehicle

## **S**

SAP	Satellite Accumulation Plan
SF	Security Forces
SHPO	State Historic Preservation Office
SO <sub>2</sub>	Sulfur Dioxide
SR	State Road



SS	Subsection
SW	Space Wing
SWPPP	Storm Water Pollution Prevention Plan

<b>T</b>	
tpy	Tons Per Year

<b>U</b>	
U.S.	United States
UFC	Ultra High Frequency
URTD	Upper Respiratory Tract Disease
U.S.C.	United States Code
USEPA	United State Environmental Protection Agency
UST	Underground Storage Tank
UVF	Ultra High Frequency

<b>V</b>	
VAQ	Visiting Airmen Quarters
VHF	Very High Frequency
VOQ	Visiting Officers Quarters



## **1.0 PURPOSE OF AND NEED FOR PROPOSED ACTION**

### **1.1 INTRODUCTION**

#### **1.1.1 Background**

Patrick Air Force Base (PAFB) is located on a barrier island on the central east coast of Florida, south of the city of Cocoa Beach (see Map 1-1). The main base covers approximately 2002-acres and is bounded by the Atlantic Ocean on the east and the Banana River on the west (see Map 1-2). There is little topographic relief across PAFB, with elevations from 0 to 13 feet above mean sea level (AMSL), and the highest elevation corresponding to sand dunes along the Atlantic Ocean (see Map 1-2). From the dunes, the site gently slopes northwest toward the Banana River shoreline. See Map 1-3 for a depiction of the PAFB.

The U.S. Navy established the installation in 1940 as the Banana River Naval Air Station, which served as an active base for anti-submarine sea-patrol planes during World War II. After the installation's deactivation in 1947, it was transferred to the Air Force in 1948. The base was renamed Patrick Air Force Base in 1950 in honor of the chief of the U.S. Army Air Service from 1921 to 1927, Major General Mason M. Patrick. At this time the Air Force began developing the Eastern Test Range (ETR). From 1950 to present, the 45th Space Wing (45th SW), formerly the Eastern Space and Missile Center (ESMC), has been responsible for launch, test and support operations associated with cruise missile program; ballistic missiles; the Apollo and Space Shuttle programs; and the Delta, Atlas and Titan programs.

On October 1, 1990, Air Force Space Command (AFSPC) assumed responsibility for the USAA space launch operations, and on November 12, 1991, the ESMC was deactivated and the 45th SW was activated as a result of restructuring throughout the Air Force. The ETR has since been redesignated as the Eastern Range (ER) with the 14th Air Force at Vandenberg AFB, California, overseeing the 45th SW.

Currently the 45th SW provides mission-ready forces for the 14th Air Force and the U.S. Strategic Command to safely execute and maintain space lift operations and operate, maintain and secure the Eastern Range. It supports ballistic missile test launches, aircraft tests and other ballistic munitions evaluations. It also supports civil space launch facilities



and range instrumentation which provides for the nation's access to space and ballistic missile evaluation.

There are numerous mission partners who are tenant units at PAFB. Among the largest are the Air Force Technical Applications Center (AFTAC), the Defense Equal Opportunity Management Institute (DEOMI), the Department of State (DOS), and the 920th Rescue Wing (920th RQW). The 920th RQW provides combat rescue, air support for manned space flight operations, and safety surveillance for sea security zones. It also provides humanitarian and disaster relief operations as directed. The 920th RQW employs almost 1,200 individuals. The DOS – Aviation Division provides support for aviation activities in Central and South America. While this group employs a small number (10 to 20) of personnel, its function is notable, and includes maintenance, logistics and operations support of aviation activities. The DEOMI is a joint-service field activity of the Department of Defense (DoD), and employs around 125 personnel. Its mission is to serve as the center for equal opportunity and human relations, and to translate increased awareness of issues into improved leadership. The AFTAC provides national authorities with technical measurements to monitor nuclear treaty compliance, and develops advanced monitoring technologies. This function employs a staff of about 700.

### **1.1.2 General Plan**

The Patrick Air Force Base General Plan (PAFB General Plan) is the culmination of the installation's comprehensive planning process that occurs in five-year cycles. It is a summary document that provides the 45th SW Commander and subordinate leaders a framework for making effective programming, design, construction, and resource management decisions. The PAFB General Plan identifies the essential characteristics and capabilities of the base and assesses the potential for development, responding to AFSPC's commitment to preserve its assets and protect the environment. Furthermore, the PAFB General Plan is an essential component of the base development cycle, and it serves as the impetus for construction of required facilities. These facilities are used, maintained, and eventually demolished when repair costs are greater than new construction, potentially creating the need for replacement facilities.

The process used to produce the PAFB General Plan included assessing all of the planning areas affecting, or influenced by base development. This included the assessment of all land areas within PAFB for the current and projected capability to provide services to



assigned personnel. Additionally, land use compatibilities between PAFB and the surrounding neighborhoods were evaluated to address any areas impacted by activities on the installation.

The PAFB General Plan is a cooperative effort, to which PAFB personnel and contractors contributed information, guidance, and expertise. Information in this plan was collected and analyzed through a review of existing documentation, interviews with key Air Force personnel, data research, and field surveys.

Keeping the PAFB General Plan up to date and accurate is vital to ensuring its continued usefulness. The PAFB General Plan is intended to be a “living document”; therefore, it would become necessary to revise it as mission, budget and other conditions generate new planning requirements.

The Commander of the 45th SW is responsible for planning and management of PAFB resources. The PAFB General Plan reflects the Commander’s decisions regarding future development requirements. The Facilities Board (FB) is a multi-functional body that makes decisions regarding the management and development of real property assets. The FB accomplishes the objectives of *Air Force Policy Directive (AFPD) 32-10, Installations and Facilities*. It reviews and approves actions pertaining to the following areas:

- Facility requirements beyond the resources of the Group Commanders
- Acquisition and disposal of facilities
- Siting of new facility construction, additions, and alterations
- Master Plan Implementation
- Real property maintenance and repair projects
- Minor Construction (MC) program
- Military Construction (MILCON) Program
- Military Family Housing (MFH) programs
- Environmental, Medical, Energy, Non-Appropriated Funds (NAF), and Associate construction programs and projects
- Wing organization relocation and move plan

Additionally, the PAFB General Plan is reviewed and amended to accommodate mission changes, command guidance, facility user feedback, and other pressures. When new



facilities are required, the Base Community Planner develops a recommendation. This recommendation is presented to the FB for their evaluation and a decision. If approved, the PAFB General Plan is revised and the cycle begins anew.

### **1.1.3 PAFB General Plan and Maintenance Environmental Assessment**

The Patrick Air Force Base General Plan and Maintenance Environmental Assessment (General Plan EA), a companion document to the PAFB General Plan, was created in conjunction with the General Plan. The General Plan EA is revised in five-year cycles. The General Plan EA is prepared in accordance with 32 CFR Part 989, *Environmental Impact Analysis Process*, which implements the tasks and procedures for the Air Force Environmental Impact Analysis Process (EIAP). The Air Force EIAP implements the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, 42 United States Code (U.S.C.) Sections 4321 through 4347, the Council on Environmental Quality (CEQ), *Regulations for Implementing the Procedural Provisions of the NEPA*, 40 Code of Federal Regulations (CFR), Parts 1500 through 1508, 32 CFR 989, *Environmental Impact Analysis Process* and the Air Force Policy Directive 32-70, *Environmental Quality*.

The General Plan EA is an analysis of the potential consequences of implementing the proposed actions identified in the PAFB General Plan, as well as, maintenance activities occurring on the base. The master planning process and related operations that occur at PAFB are subject to continual change in response to a wide range of influencing factors. Therefore, the General Plan EA also includes programmatic elements designed to support the evaluation of environmental impacts relating to future actions and plans.

### **1.2 Purpose and Need**

To further reinforce the vision, the PAFB General Plan establishes a framework of goals and objectives that support the PAFB mission. These goals and objectives reflect the actions necessary to enhance the PAFB mission, quality of life, and environmental quality. These, together with the mission statement, embrace the vision for the future of PAFB. The goals and objectives that support this vision are as follows:





**A. Utilize capacity to accommodate future growth.**

- Analyze existing land to determine highest and best use.
- Assess the capability of the existing infrastructure to support existing and new development.
- Identify renovation and new construction requirements to support long-range goals and objectives.
- Improve vehicle and pedestrian circulation.

**B. Explore opportunities for new flying missions.**

- Evaluate facility requirements of potential missions.
- Design general facility plans to accommodate potential users.

**C. Ensure appropriate and compatible land uses.**

- Identify functional relationships and consolidate compatible activities.
- Separate quality of life and/or housing facilities from industrial and/or aircraft operation complexes.

**D. Improve Airfield Criteria Compliance.**

- Relocate functions that occupy facilities within the Clear Zones to unconstrained existing or new structures.
- Prioritize relocation actions to minimize disruption, consistent with practicality and current fiscal realities.

**E. Ensure compliance with environmental regulations.**

- Comply with federal, state, and local environmental regulations and policies.
- Ensure that the Environmental Impact Analysis Process (EIAP) is followed when development is proposed.
- Minimize disturbance and/or exploitation of endangered and/or threatened species habitat.
- Continue Installation Restoration Program (IRP) cleanup and Underground Storage Tank (UST) removal.

**F. Define and Follow Architectural Design Guidelines.**

- Enhance the installation design standards and strengthen compliance with the PAFB Facilities Excellence Plan.
- Establish and implement a range of building and site prominence based upon their function and public exposure.
- Continue to build and enhance existing facilities that are responsive to a Mediterranean-style of architecture.
- Continue designing facilities that are responsive to the climate with elements such as pitched roofs, covered entrances, and large overhangs.
- Use landscaping to complement facilities, separate functions and focus views.



### **1.3 Assessment Analysis**

#### **1.3.1 Programmatic Nature of the Environmental Assessment**

The General Plan EA identifies past EAs completed for PAFB, which can be utilized to determine potential impacts on future planned actions at PAFB. However, the master planning process and related operations that occur at PAFB are subject to continual change in response to a wide range of influencing factors. Therefore, this document must include programmatic elements designed to support the evaluation of environmental impacts relating to future actions and plans.

Potential programmatic evaluation elements are intended to accomplish the following:

- 1) Enhance the installation's ability to incorporate environmental considerations into the formulation of operating and planning decisions at the early concept stage, thereby minimizing potential impacts and improving the efficiency of the planning and environmental review process.
- 2) Reduce the need for preparation of repetitive individual environmental documents for minor or routine actions that are similar to those evaluated in this document.
- 3) Reduce the effort required to evaluate major new actions by using this General Plan EA as a baseline reference.

#### **1.3.2 Programmatic Evaluation Elements**

The General Plan EA includes a list of identified EAs and current component plans for PAFB. These actions are representative of the types of actions that are likely to be identified and evaluated in the future.

Chapter 3.0 of the General Plan EA, Affected Environment, provides an environmental baseline description of the existing physical, social, and economic environment within and around PAFB. This baseline data would be used to evaluate potential impacts of proposed actions identified in the General Plan EA and base maintenance activities. This baseline data should be updated approximately every five years to maintain the usefulness of the document for programmatic review purposes.

#### **1.3.3 Programmatic Analysis Procedures**

The General Plan EA describes the steps necessary for proper evaluation of potential environmental impacts of proposed actions. As an interdisciplinary team, the proponent,



Civil Engineering, Environmental Planning Function (EPF), Staff Judge Advocate, Medical Service (Bioenvironmental Engineering), Safety Office, Range and Airspace Managers, Plans and Programs, Logistics, Public Affairs, etc. would work together to determine the extent of documentation required to implement the proposed action.

Each proposed project must be reviewed by the PAFB EPF (45th SW CES/CEV, Environmental Flight) to determine environmental impacts, Federal and State permitting requirements and potential impacts and consequences. The following information provided in the General Plan EA, however, can be used as a tool for initial screening and pre-planning to avoid impacts to currently known resources.

- As an initial step, Map 1-4 of this document should be reviewed to determine if the proposed action has been specifically listed in the General Plan. Each project must follow 45th SW EIAP outlined in 45th SW Instruction 32-7002. Environmental impacts would be addressed and documented for each project. The level of environmental impact analysis would be determined by the EPF with coordination efforts of the integrated team of key Air Force/45th SW units. Any projects located in the 100-year floodplain or wetlands or directly impacting threatened and endangered species will require site-specific and project-specific analyses using the General Plan EA as a tiering document.
- If the proposed action has been specifically addressed in the General Plan, then a determination should be made as to whether it is within the scope of the programmatic nature of the General Plan EA using the PAFB Fire/Crash Station representative project found in Appendix C. A new action may not require environmental documentation past the AF Form 813 by using the General Plan EA analysis if it is not located within the floodplain or in wetlands, and is situated within installation boundaries while falling under one of the broad evaluation categories (i.e., new construction, renovation, infrastructure improvement and maintenance, ground maintenance or component plans). Nevertheless, the EPF must review the project scope and specifications to determine proper review/analysis under NEPA. This programmatic EA along with tiered documents will be reviewed periodically to monitor cumulative effects.



### **1.3.4 Types of Environmental Documentation**

The current mission of PAFB is relatively constant, and it is expected that many future actions will be very similar to those that have been identified and evaluated in this document. Therefore, as mentioned earlier, analysis of new projects may be limited to application of the 45th SW EIAP and preparation of an AF Form 813. It is used not only to indicate when an EA is required, but also when a proposed action qualifies for a Categorical Exclusion (CATEX), actions that generally are routine and without adverse environmental impacts. An AF Form 813 documents the CATEX. In cases where a separate EA and Finding of No Significant Impact (FONSI) or an EIS and related Record of Decision (ROD) are required, these documents should “tier” off the General Plan EA to the maximum extent possible to minimize the duplication of effort, complexity, and size of these future documents (40 CFR 1502.20; 32 CFR 989.10).

### **1.3.5 Assumptions Regarding the Programmatic Analysis Procedure**

The General Plan EA is not an all-inclusive document with respect to projecting potential future environmental impacts and only addresses reasonable foreseeable activities. Conclusions of this EA are based on the best available science and projected scope of known activities. Future actions that are fully analyzed in this document as well as new actions that are proposed on similar sites with the same environmental impacts as those addressed in this EA may potentially be categorically excluded from further analysis by using an AF Form 813. Actions that are not fully analyzed would require additional analysis that would be tiered from this document. This programmatic EA along with tiered documents would be reviewed periodically to monitor cumulative effects. Any proposed project or activity in or adjacent to wetlands or floodplains will be evaluated separately and a Finding of No Practicable Alternative (FONPA) will be addressed. The proponent and the EPF would work together to ensure integration of the EIAP from initial planning to completion of the project. Regardless, compliance with all applicable laws and regulations is required for any actions on PAFB.

## **1.4 Applicable Regulations and Compliance Procedures**

The General Plan EA was developed in accordance with the National Environmental Policy ACT of 1969 (NEPA) and implements regulations issued by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). Furthermore, the U.S. Air Force Policy Directive 32-70, *Environmental Quality* commits to improving the environmental standards applicable to the present operations, planning future activities to minimize environmental impacts, managing



the irreplaceable natural and cultural resources it holds in public trust in a responsible manner and eliminating pollution causing activities wherever possible.

32 CFR Part 989 - *EIAP*, identifies responsibilities, general compliance requirements, and procedures to protect and preserve the quality of the environment. It implements the Air Force EIAP and provides procedures for environmental impact analysis both within the United States and abroad. In addition to NEPA, there are other laws, regulations and Executive Orders (EOs) that serve as a framework for environmental analysis of this document. These are, but not limited to, the Endangered Species Act (ESA), Clean Air Act (CAA), Clean Water Act (CWA), the Magnuson-Stevens Fisheries Conservation and Management Act, EO 11514, *Protection and Enhancement of Environmental Quality*, EO 11988, Floodplain Management, EO 11990, *Protection of Wetlands*, EO 13112, Invasive Species, and EO 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition. A variety of other applicable Federal, state, and local laws and regulations that pertain to activities occurring on PAFB would be identified in the environmental review process for each proposed action. Refer to the regulatory table found in Appendix D for a list of requirements generally applied to actions on PAFB.

### **1.5 Related Environmental Documentation**

A list of Environmental Assessments completed at PAFB is included in Appendix A.

### **1.6 Agencies Involved In Environmental Analysis**

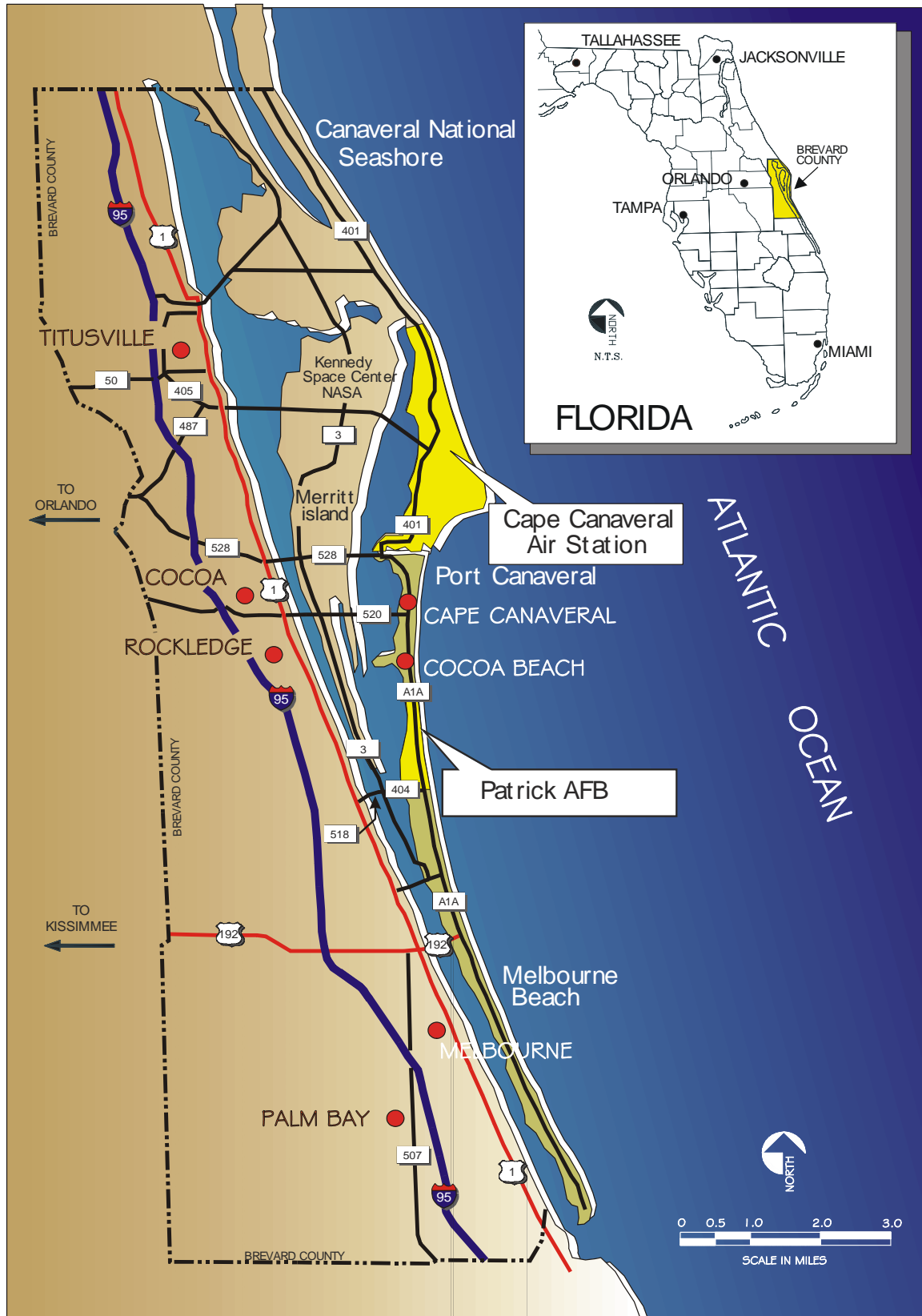
The Florida State Clearinghouse reviews Environmental Assessments for projects planned at PAFB pursuant to Gubernatorial Executive Order 95-359; the Coastal Zone Management Act; 16 U.S.C. SS 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. SS 4321, 4331-4335, and 4341-4347. The Florida State Clearinghouse sends copies of the draft environmental assessments to applicable regulatory agencies for review and passes the review comments to PAFB for resolution in the final environmental assessment.

### **1.7 Public Involvement**

Public involvement takes place at the completion of the EA process. A 30-day comment period occurs after the "Notice of Availability of the Programmatic Environmental Assessment for the General Plan and Maintenance of PAFB" is published in the local newspaper.



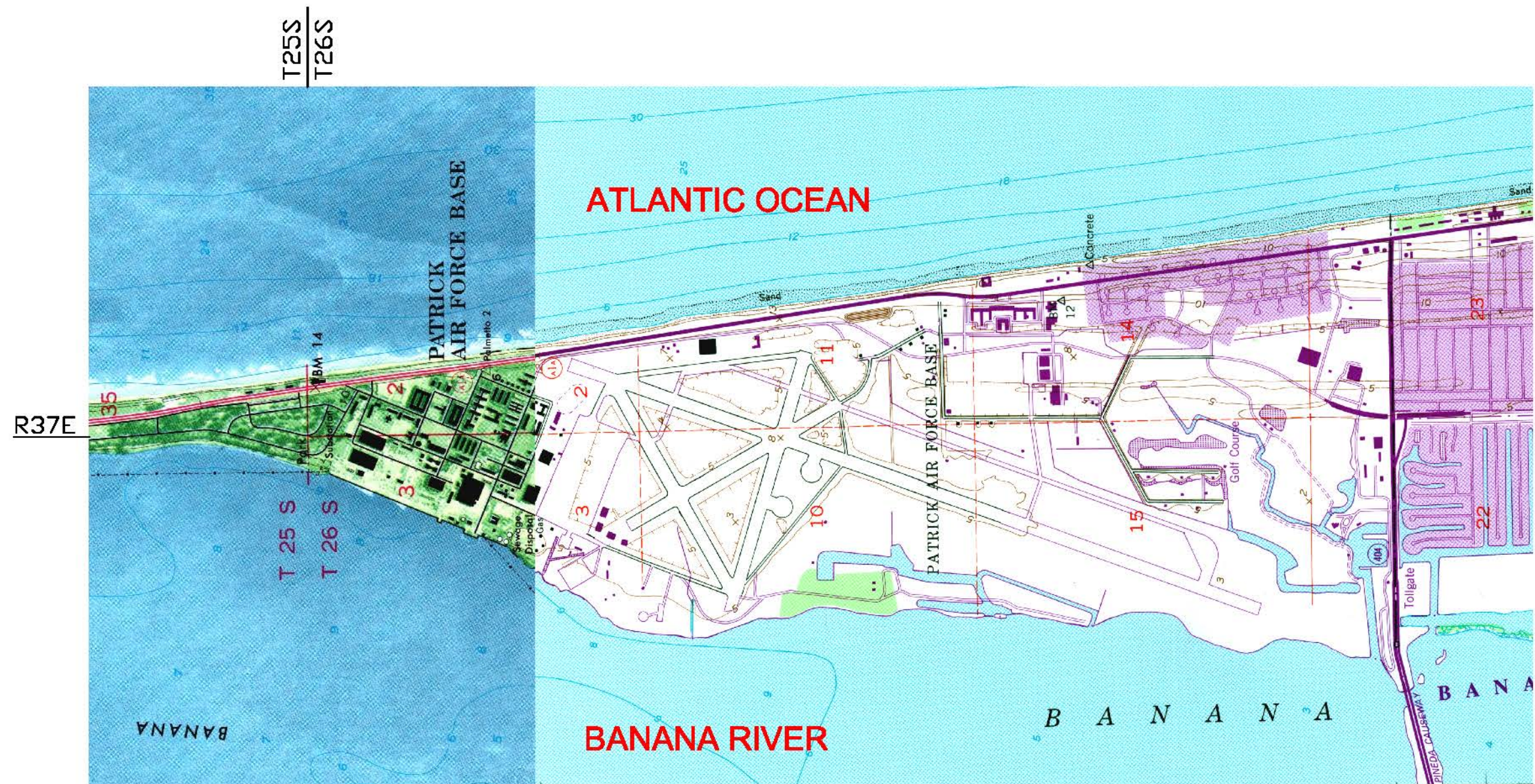
Map 1-1 Area Map







**PATRICK AFB GENERAL PLAN EA**



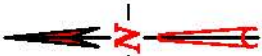
**LEGEND**

NOTE:  
SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC  
QUADRANGLES, TROPIC, AND COCOA BEACH  
FLORIDA, PHOTOREVISED 1988 AND 1976,  
RESPECTIVELY

FLORIDA



**Map 1-2**  
SITE LOCATION &  
TOPOGRAPHICAL MAP



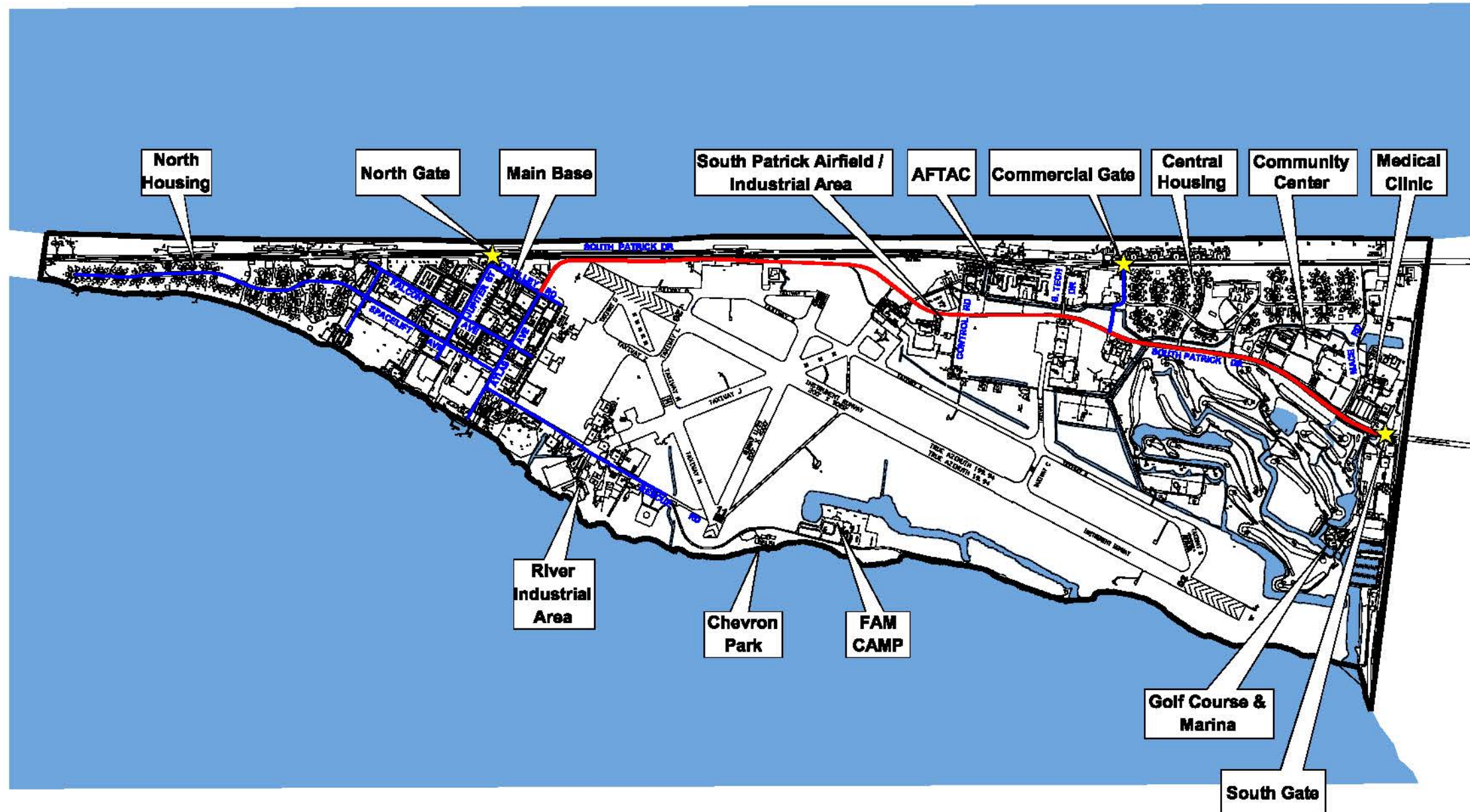
SCALE







## PATRICK AFB GENERAL PLAN EA

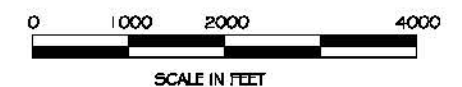


### LEGEND

- Arterial Road
- Collector Road
- Installation Boundary
- ★ Entry Gate

Map 1-3

INSTALLATION

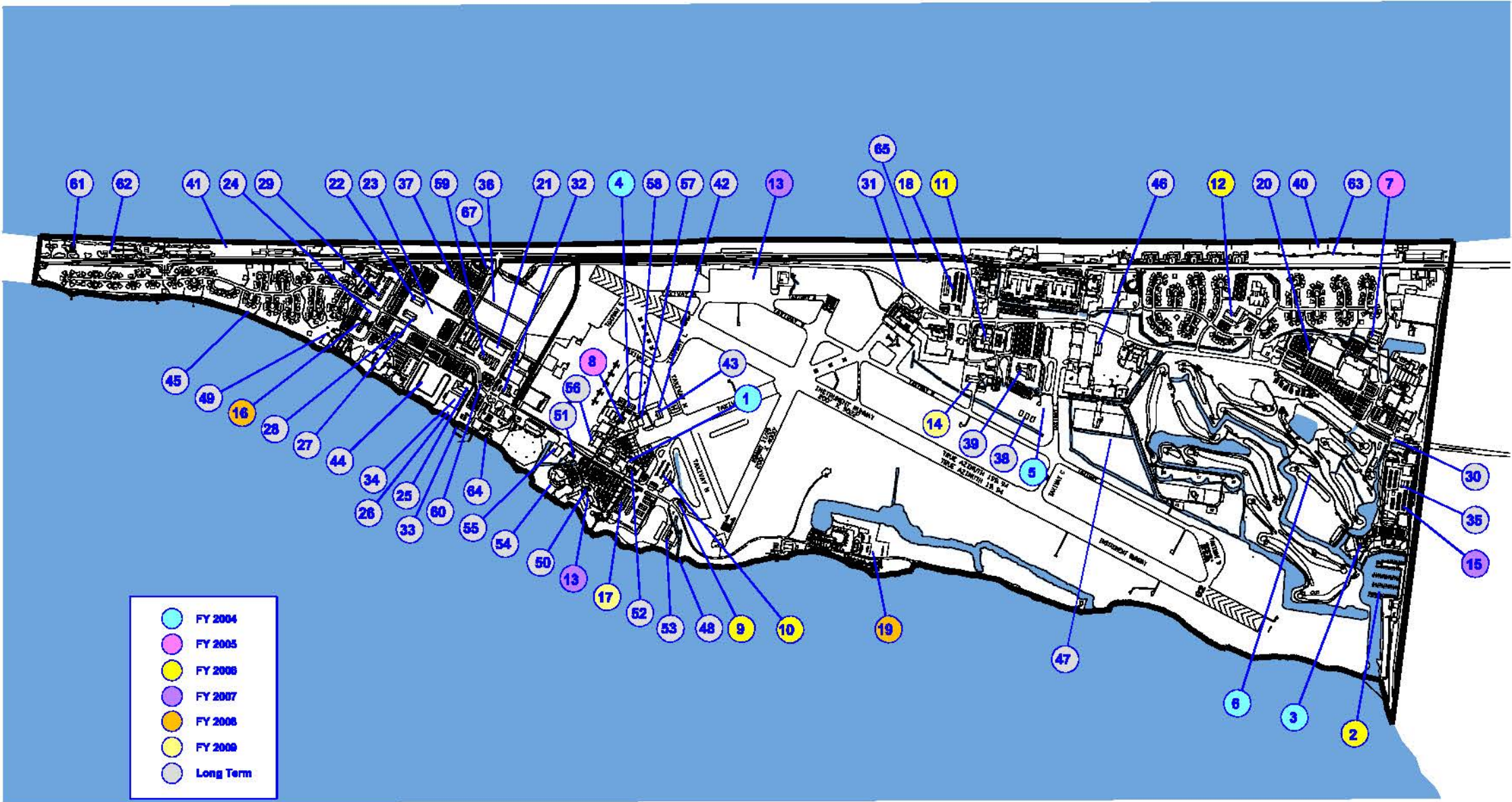


1-12





PATRICK AFB GENERAL PLAN EA

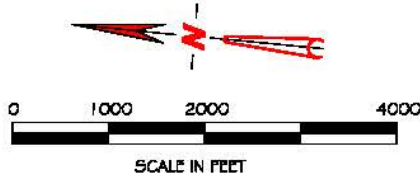


LEGEND

Map#	FY	Title
1	2004	Add after flight eng facility, Building 606
2	2006	Expand Marina Dock
3	2004	Golf Clubhouse Facility
4	2004	820th Warehouse Facility
5	2004	Tower Simulator Facility
6	2004	Corvet Restrooms, Golf Course
7	2006	Relocate Base Pharmacy
8	2006	820th AGE Facility Relocation
9	2006	Construct LOX Maintenance Facility
10	2006	Relocate POL Maintenance Facility
11	2006	Security Forces Operations Facility
12	2006	Child Development Center
13	2007	Construct addition to PJ Building
14	2008	Fire Creek/Rescue Station
15	2007	Marina Dry Dock Relocation
16	2008	Visitors Quarters - Phase 1
17	2008	Civil Engineer Complex
18	2008	Vehicle Maintenance/Operations/Vehicle Parking
19	2008	Firing Range
20	-	AFER Auto Maintenance facility
21	-	Telecommunications facility
22	-	Wing Conference Center
23	-	Mission Support Facility
24	-	Visitors Quarters - Phase 2
25	-	Bowling Center
26	-	Sports & Fitness/Health & Wellness Center
27	-	Base Theater
28	-	Base Chapel
29	-	Visitors Quarters - Phase 3
30	-	Relocate South Gate
31	-	Widen South Patrick Drive
32	-	Construct shopette, gas station
33	-	Construct new lockhouse
34	-	Construct Recreation facility
35	-	Combined Services facility
36	-	Clear Zone Administrative Facilities Relocations
37	-	Titan Road Realignment
38	-	New relation hangars
39	-	AFTAG Administrative Facility
40	-	South Beach Dune Restoration
41	-	North Beach Dune Restoration
42	-	820th Explosive Storage Facility
43	-	Gun Maintenance
44	-	Riverfront Development Phase 2 - Consolidation & Greenhouse/Pavilion
45	-	Riverfront Development Phase 3 - Northern Riverwalk
46	-	DCS Warehouse
47	-	Security Forces Fitness Course
48	-	Riverwalk Phase 4
49	-	Water Tower
50	-	Pararescue Jumpers Administrative Building
51	-	920 Squadron Admin Initiative Building
52	-	920 Logistic Readiness Squadron
53	-	PUCRO Boat Storage
54	-	920 Rescue Wing Headquarters
55	-	Corrosion Control Facility
56	-	ISO Dock Hanger Addition
57	-	Phase Dock Hanger
58	-	LOX Relocation
59	-	Mini Mail Relocation
60	-	Spawell Avenue Realignment
61	-	North Beach Visiting Quarters
62	-	North Beach Recreational Facilities
63	-	South Beach Recreational Facilities
64	-	Security Forces Boat Dock
65	-	Relocate Central Gate
66	-	Relocate Electric Line (Location Not Identified)
67	-	Expand Fess & ID

Map 1-4

CIP/FACILITY  
DEVELOPMENT PLAN





## 2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

### 2.1 Proposed Action

The proposed action is continued development and maintenance of PAFB as guided by the Capital Improvements Program (CIP). The CIP section of the PAFB General Plan defines the programs, projects and siting proposals that would guide the future physical development at PAFB. The CIP is intended to assist decision makers in accommodating growth, mission changes, and facility needs at the installation. The CIP provides a summary of development requirements based upon the findings and recommendations from the other sections of the General Plan. The CIP for PAFB includes 3 primary components:

- Facility Development
- Urban Design & Quality of Life
- Area Development Plans

Facility Development is the foundation upon which the CIP is based. The Facility Development component provides a general assessment of the existing facilities on the installation, and identifies areas where improvements or new facilities are needed. Requirements for new and renovated facilities guide the formulation of development concepts, which in turn become the Area Development Plans (ADPs). The majority of existing facilities at PAFB are well maintained and are generally adequate for the aerospace missions they support. However, in certain circumstances, new facilities are needed. For example, in some cases operations have expanded, or functions have been reorganized, requiring more or different types of space. In addition, the mission demands of some of the units require enhanced facilities to bring them up to date with current technology. In a few cases, buildings are old and in a deteriorated condition which impacts the efficiency of their operation. Furthermore, several facilities are located within the Airfield Clear Zone. These buildings are some of the facilities that have been recommended for demolition.

The Urban Design component addresses the physical character of the installation, through the establishment of guidelines for architectural compatibility and landscape development. These design concepts have been created for PAFB in the *Facilities Excellence Plan* prepared for the installation. When applied to the design of new facilities or renovation of existing facilities, these design guidelines can create a consistent, aesthetically pleasing character for the installation. An attractive installation environment in turn contributes to the



morale and positive “Quality of Life” philosophies promoted by the installation. Implementation of the design concepts outlined in this component is depicted in the ADPs.

The Area Development Plans component contains focused plans for the physical implementation of the Facility Development program, and portrays the conceptualized Urban Design and Quality of Life amenities. The CIP includes eight individual ADPs, each of which addresses a specifically selected area at PAFB. Appendix B contains an Area Development Plan Key, which show the location of each selected area and Appendix B also contains an area description, issues and recommendations for each of the following ADPs:

- Area Development Plan #1 - North Beach/Picnic Area
- Area Development Plan #2 - Main Base Area
- Area Development Plan #3 - River Industrial Area
- Area Development Plan #4 - River Front Recreation Area
- Area Development Plan #5 - AFTAC/Airfield Area
- Area Development Plan #6 - Community Center/Florida Air National Guard Area
- Area Development Plan #7 - Marina/Golf Course Area
- Area Development Plan #8 - Base-Wide Trail Network

An ADP is a conceptual diagram of a specific, small area within the base. Each area is identifiable by a unique location, environmental character, or the specific activities and tasks that are conducted there. The ADPs are developed with distinct goals in mind for the future of the area. Planning with an ADP involves analyzing the constraints and opportunities of an area, identifying future development potential, and proposing solutions in order to improve the area’s aesthetics and organization. The emphasis of an ADP would be the location of new facilities to meet the growing and changing needs of the base, and the relocation of existing facilities to address land use incompatibilities, comply with airfield clearances, and better utilize on-base assets.

Integrated into the CIP are actions to maintain existing facilities, infrastructure, and grounds that coincide with the future development of PAFB. Certain facilities and infrastructures components would undergo renovation to ensure safety, environmental, security, and aesthetic requirements were met. Several infrastructure components need regular maintenance for mission support and efficiency. Some examples are building additions and





upgrades, patching/repairing of the airfield, roadways, driveways, etc., and dredging/cleaning of drainage canals, ditches and grates. Grounds maintenance and landscaping are other routine activities that support the mission and improve the aesthetics of the base.

The general goals and objectives for the installation, as outlined in the PAFB General Plan, ensure that environmental impacts are reduced and/or eliminated. However, future individual actions may still require detailed environmental analysis and recommendations of feasible alternatives prior to construction and/or implementation. This procedure would provide efficient, environmentally sensitive operational support at the installation, and meet the installation's mission need for comprehensive planning. All actions within the General Plan that will not directly impact a federally listed species or environmentally sensitive areas, and will not alter the 100-yr floodplain or wetlands have the potential to be programmatically represented by the impact analyses for construction of a Fire/Crash Rescue Station found in Appendix C.

In addition to Appendix C, supplementary site information for the new Fire/Crash Rescue Station can be found in Area Development Plan (ADP) 5 of the PAFB General Plan. A summary of ADP 5 is presented in Appendix B, which provides Area Descriptions, Issues, and Recommendations.

Building additions and renovations, patching/repairing of the roadways and airfield, and some new construction projects in the General Plan should have programmatic application of the General Plan EA. Projects that have the highest potential to be represented by the Fire/Crash Rescue analysis are centered in the Main Base, Airfield/AFTAC, and Community Center ADPs due to the lack of significant environmental constraints. For example, these include, but are not limited to, construction of facilities to replace those that must be demolished in the airspace clear zone such as Fitness Center, Bowling Alley, Administrative Buildings, as well as other construction projects such as a Mini Mall, Visitors Quarters, and Communication Buildings.



## **2.2 Alternatives Considered**

### **2.2.1 No-Action Alternative**

The no-action alternative would be to maintain the existing facilities, infrastructure and grounds at PAFB and not construct new facilities in support of changing operational requirements. This alternative would provide for operational support of various PAFB operations, but not at the efficiency available from the proposed action. The mission need for operational planning support could be met under this alternative but could not be done in a comprehensive, synergistic manner. In addition, a mission objective could be jeopardized if adequate support is not planned in a timely fashion. Also, the requirement to clear the Airfield Clear Zone would not be met.



### **3.0 AFFECTED ENVIRONMENT**

#### **3.1 Introduction**

The description of the environmental setting also referred to, as baseline, existing, background or affected environment, is an integral part of an environmental assessment. There are two major purposes for describing the environmental setting of the proposed action in an impact study, namely (1) to assess existing environmental quality, as well as the environmental impacts of the alternatives being evaluated, including the no-action or no project alternative, and (2) to identify environmentally significant factors or geographical areas that could preclude the development of a given alternative or alternatives. Additional purposes of describing the setting include providing sufficient information so that decision makers and reviewers unfamiliar with the general location can develop an understanding of the project need, as well as the environmental characteristics of the study area, and to serve as a basis for establishing project need.

#### **3.2 Air Quality**

##### **3.2.1 Current Major Impacts**

PAFB is currently authorized to operate under the Florida Department of Environmental Protection (FDEP) Title V Air Permit No. 0090021, renewed September 18, 2002. The permit is valid for a five-year period and will expire on September 18, 2007.

Major sources of pollutants at PAFB include steam boilers, surface coating operations, and fuel storage tanks. Other sources of pollutants at the base are considered insignificant activities. The base is currently classified as a major source of criteria pollutants since the facility-wide potential to emit (PTE) is greater than 100 tons per year (tpy). The PTE of hazardous air pollutants (HAPS) are less than 10 tpy for a single HAP and 25 tpy for total HAPS. PAFB is currently operating as a synthetic minor of HAP emissions under federally enforceable operating limitations.

As required under the Title V operating program, PAFB has submitted the annual statement of compliance reports certifying that the base is in compliance with all terms and conditions of the Title V permit. In addition, PAFB has paid appropriate annual emissions fees, submitted annual operating reports, and annual compliance statements.



The U.S. Environmental Protection Agency (EPA) under the following general regulations regulates the air quality at PAFB:

- Title 40 CFR 50 (National Ambient Air Quality Standards (NAAQS),
- Title 40 CFR 51 (Implementation Plans),
- Title 40 CFR 61 and 63 (National Emission Standards for Hazardous Air Pollutants (NESHAPS),
- Title 40 CFR 70 (Operating Permits), and
- Title 40 CFR 82 (Protection of Stratospheric Ozone).

PAFB is also regulated by the FDEP's Air Resource Management program under specific regulations of the Florida Administrative Code (FAC), Chapter 62. In general, the following regulations may apply to facility operations or modifications at the facility:

- FAC, Chapter 62-4 (Permits)
- FAC, Chapter 62-204 (Air Pollution Control – General Provisions)
- FAC, Chapter 62-210 (Stationary Sources – General Requirements)
- FAC, Chapter 62-212 (Stationary Sources – Preconstruction Review)
- FAC, Chapter 62-213 (Operation Permits for Major Sources of Air Pollution)
- FAC, Chapter 62-296 (Stationary Sources – Emissions Standards)
- FAC, Chapter 62-297 (Stationary Sources – Emissions Monitoring)

For any new stationary sources of air contaminants, modifications that may occur as part of the general plan would need to be evaluated to determine compliance with federal and state air quality regulations. Prior to the construction or installation of any facility, which may reasonably be a source of air pollution, PAFB must apply for and receive a construction permit unless the proposed or modified equipment is exempt from permitting. Upon receipt of a construction permit, PAFB may be required to update the Title V Air Permit No. 0090021-003-AV to include the new sources of air emissions.

### **3.2.2 Ambient Air Quality Standards**

The EPA has established NAAQS for six principle pollutants under 40 CFR Part 50. The NAAQS consists of primary standards and secondary standards. The primary standards have been established to protect human health. The secondary standards have been



established to protect the public welfare. The standards have been established for six principle pollutants, which are referred to as “criteria” pollutants. The criteria pollutants include ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter with an aerodynamic diameter less than 10 microns (PM<sub>10</sub>), and lead (Pb).

The FDEP has adopted the federal NAAQS to regulate ambient air quality in the state of Florida. In addition, the FDEP has promulgated state Ambient Air Quality Standards (AAQS) (FAC Chapter 62-204). Table 3-1 presents the NAAQS and AAQS for the regulated criteria pollutants.

### **3.2.3 Regional Air Quality**

Existing air quality is defined as either “in attainment” or “nonattainment” with respect to ambient air quality standards. An area with air quality better than the NAAQS is designated as being in attainment, whereas an area where pollutant concentrations exceed the NAAQS with a frequency specified by the regulation is classified as nonattainment.

In Florida, regional air quality is assessed at the county level. PAFB is located within Brevard County. Brevard County has been designated by both EPA and FDEP to be in attainment for all criteria pollutants. Ambient air monitoring records from monitoring stations maintained by the appropriate state or local agency for the affected environment were obtained to characterize the existing air quality. Information about pollutant concentrations measured for short-term (24 hours or less) and long-term (annual) averaging periods was extracted from the monitoring station data. Table 3-2 shows recent (1999, 2000 and 2001) monitored air concentrations near PAFB.



**Table 3-1 Summaries of National Ambient Air Quality Standards and Florida Ambient Air Quality Standards**

Pollutant	Averaging Period	Florida AAQS	Primary NAAQS	Secondary NAAQS
Carbon Monoxide (CO)	8-Hour 1-Hour	9 ppm (10,000 µg/m <sup>3</sup> ) 35 ppm (40,000 µg/m <sup>3</sup> )	9 ppm (10,000 µg/m <sup>3</sup> ) 35 ppm (40,000 µg/m <sup>3</sup> )	-- --
Lead	Quarterly <sup>a</sup>	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>
Nitrogen Dioxide (NO <sub>2</sub> )	Annual <sup>a</sup>	100 µg/m <sup>3</sup> (0.05 ppm)	0.053 ppm (100 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )
Ozone (O <sub>3</sub> ) <sup>f</sup>	1-Hour <sup>b</sup> 8-Hour <sup>c</sup>	0.12 ppm --	0.12 ppm 0.08 ppm	0.12 ppm 0.08 ppm
Particulate Matter (PM <sub>10</sub> )	Annual <sup>a</sup> 24-Hour <sup>b</sup>	50 µg/m <sup>3</sup> 150 µg/m <sup>3</sup>	50 µg/m <sup>3</sup> 150 µg/m <sup>3</sup>	50 µg/m <sup>3</sup> 150 µg/m <sup>3</sup>
Particulate Matter (PM <sub>2.5</sub> ) <sup>f</sup>	Annual <sup>a</sup> 24-Hour <sup>d</sup>	-- --	15 µg/m <sup>3</sup> 65 µg/m <sup>3</sup>	15 µg/m <sup>3</sup> 65 µg/m <sup>3</sup>
Sulfur Dioxide (SO <sub>2</sub> )	Annual 24-Hour <sup>e</sup> 3-Hour <sup>e</sup>	60 µg/m <sup>3</sup> (0.02 ppm) 260 µg/m <sup>3</sup> (0.10 ppm) 1,300 µg/m <sup>3</sup> (0.5 ppm)	0.03 ppm 0.14 ppm --	-- -- 0.5 ppm

**Notes:**

- Arithmetic mean
- Not to be exceeded on more than an average of one day per year over a three-year period
- Not to be exceeded by the three-year average of the 4<sup>th</sup> highest daily maximum
- Not to be exceeded by the three-year average of the 98<sup>th</sup> percentile of the 24-hour averages
- Not to be exceeded more than once per year
- Please refer to 40 CFR 50 regarding the final promulgation of the 8-Hour ozone and PM<sub>2.5</sub> standards.

**Table 3-2 Summary of Ambient Monitored Values Near Patrick Air Force Base**

Pollutant	Averaging Period	Rank	Location	1999 <sup>a,b</sup>	2000 <sup>a,b</sup>	2001 <sup>a,b</sup>
Carbon Monoxide (CO)	8-Hour	Highest	Winter Park, Orange County	3	5	2
	8-Hour	Second highest	Winter Park, Orange County	2	2	2
	1-Hour	Highest	Winter Park, Orange County	3	8	8
	1-Hour	Second highest	Winter Park, Orange County	3	8	3
Nitrogen Dioxide (NO <sub>2</sub> )	Annual	Arithmetic Mean	Winter Park, Orange County	0.012	0.012	0.012
Ozone (O <sub>3</sub> )	1-Hour	Highest	Cocoa Beach, Brevard County	0.106	0.095	0.099
	1-Hour	Highest	Winter Park, Orange County	0.109	0.109	0.100
	1-Hour	Second highest	Cocoa Beach, Brevard County	0.087	0.093	0.086
	1-Hour	Second highest	Winter Park, Orange County	0.100	0.106	0.093
Particulate Matter (PM <sub>10</sub> )	Annual	Arithmetic Mean	Titusville Airport, Brevard County	16	17	19
	Annual	Arithmetic Mean	Winter Park, Orange County	21	20	19
	24-Hour	Highest	Titusville Airport, Brevard County	56	35	96
	24-Hour	Highest	Winter Park, Orange County	56	46	46
	24-Hour	Second highest	Titusville Airport, Brevard County	27	34	56
	24-Hour	Second highest	Winter Park, Orange County	35	39	41
Sulfur Dioxide (SO <sub>2</sub> )	Annual	Arithmetic Mean	Winter Park, Orange County	0.002	0.003	0.002
	24-hour	Highest	Winter Park, Orange County	0.008	0.013	0.014
	24-hour 2nd	Second highest	Winter Park, Orange County	0.007	0.009	0.008
	3-hour	Highest	Winter Park, Orange County	0.042	0.043	0.032
	3-hour 2nd	Second highest	Winter Park, Orange County	0.029	0.027	0.027

**Notes**

- a. Concentrations are expressed in parts per million (ppm), except PM<sub>10</sub>. PM<sub>10</sub> concentrations are expressed in µg/m<sup>3</sup>.  
b. 2001 AIRSData Monitor Report, Florida Department of Environmental Protection.



### **3.3 Water Resources**

#### **3.3.1 Surface Water and Ground Water**

The major surface waters in the area are the Atlantic Ocean, which bounds PAFB on the east and the Banana River, which bounds the base on the west (see Map 1-2). The water resources at PAFB also include man-made ponds totaling 31.3 acres, 4.1 miles of drainage ditches, and 40.2 acres of canals. Most of the drainage ditches contain water throughout the year because they intersect the shallow water table aquifer. Several canals are interconnected with the Banana River and are brackish, but don't have significant tidal influence because ocean inlets are far from PAFB.

The FDEP East Coast Florida Aquatic Preserves Office is responsible for the Indian River Lagoon (Malabar to Vero Beach), Banana River and Mosquito Lagoon. The Banana River is part of the Indian River Lagoon complex (IRL), 156-mile long estuary that spans from Ponce de Leon inlet in the north to Jupiter Inlet in the south. The entire Indian River Lagoon System has been designated as an "Estuary of National Significance" under the National Estuary Program.

The Banana River is a brackish waterway with an average depth of 5-feet. The width of the river varies from 600 to 15,000 feet (U.S. Air Force, 1992). Water exchanges with the Atlantic Ocean are very restricted, and no significant freshwater inflow occurs; thus the Banana River is classified as a lagoon. Circulation is not significant within the Banana River Lagoon System. Currents are largely wind-generated, as well as a function of freshwater inflow. Tidal fluctuations in the northern section of both the Banana and Indian River lagoon systems near PAFB are not significant due to the distances to the nearest ocean inlets. Historically, sewage effluents, agricultural and urban runoff, and restriction of natural circulation and flushing by presence of causeways are the major causes of water quality degradation within the Banana River.

The FDEP classifies the Banana River in the vicinity of PAFB as Class III water, which is intended to protect the waterways for recreation and for the propagation and maintenance of healthy fish and wildlife populations.

The Florida Governor and Cabinet established the Banana River Aquatic Preserve June 3, 1970 by resolution. In 1975, the Florida Legislature established The Florida Aquatic



Preserve Act as codified in Chapter 258, F.S. The Aquatic Preserves are administered under Chapter 18-20 and 18-21, Florida Administrative Code (FAC).

Refer to the next section, 3.4 as well as Section 3.7, Infrastructure, for physical baseline ground water information. PAFB has some air conditioning supply and return wells, monitoring wells, and irrigation wells. Base potable water needs are provided by the Cocoa municipal water system. The City of Melbourne has an agreement with the base to provide water on a contingency basis

### **3.4 Geology and Soils**

PAFB is situated on a barrier island off the central east coastline of Florida. The barrier islands are a system of beach ridges that separate the Atlantic Ocean from brackish lagoons such as the Banana River, which forms the western boundary of PAFB. The island attains a maximum width of some 4.5 miles and is approximately 90 miles long. Land surface elevations across PAFB range from 0 to 15 feet above MSL, with the highest elevations corresponding to the sand dunes, which parallel the Atlantic beachfront. From the dunes, the land slopes gently west toward the shorelines along the Banana River.

The unconsolidated surficial materials, which underlie PAFB are the undifferentiated Pleistocene/Holocene deposits known as the Pamlico sands. These deposits are composed primarily of marine sands, which are sandy, well drained, and generally good for development; however, the stability of the soils near Banana River is suspect. This instability limits construction to less intensive forms of development and requires soil boring prior to beginning construction projects. There is high susceptibility to erosion along both shorelines (PAFB General Plan, 1996).

The bedrock underlying the base is considered to be all those units, which underlie the Pleistocene/Holocene deposits. The first such unit is encountered is the Anastasia Formation of Pleistocene age. This formation lies 10 feet below land surface (Bls) and has a thickness of 20 feet. Its lithology is that of coquina and shell conglomerates, quartz sand and clay. Beneath the Anastasia is the Caloosahatchee Marl Formation. It is encountered at a depth of approximately 30 feet Bls and is 50 feet thick. In the vicinity of the base, it is described as a gray to greenish-gray sandy shell marl with green clay and fine sand of



Pliocene age. Underlying the Caloosahatchee Marl Formation is the Miocene age Tamiami Formation. However, the Caloosahatchee Marl Formation may locally overlie either the Tamiami or the deeper Hawthorn Group. The approximate thickness of the Tamiami Formation is 20 feet, and it is located 80 feet below sea level (Bsl). It is composed predominantly of a white sandy limestone that is discontinuous in the region.

PAFB is underlain by both confined and unconfined aquifers. The hydrologic units (aquifers) underlying PAFB include the surficial water table aquifer; semi-artesian and artesian aquifers within the Caloosahatchee Marl, Tamiami Limestone, and Hawthorn Group, and the artesian Floridian aquifer. The surficial water table aquifer underlying PAFB is the major hydrostratigraphic system that can be influenced by base operations. This system, consisting primarily of marine sands, shell fragments, and coquina limestone, and extends approximately 50 feet Bls. The water table is generally within five feet of the ground surface. The surficial groundwater flows primarily toward the Banana River. Low-levels of contaminants (e.g., VOC, petroleum hydrocarbons, and heavy metals) have been detected in surficial groundwater at the base and are listed as Installation Restoration Program sites.

Groundwater at PAFB occurs under unconfined (water table), semi-confined, and confined (artesian) conditions. The unconfined aquifer, composed of Holocene and Pleistocene age surficial deposits of marine sand, shell fragments, and sand conglomerate of the Anastasia Formation, is recharged by direct infiltration or rainfall. The generalized direction of groundwater flow in the surficial aquifer is westward, toward the Banana River. Localized flow in the surficial aquifer is from topographic highs (mounds, swells, dune ridges) toward surface water bodies (creeks, ponds, drainage canals).

Wind erosion at PAFB can be minimized by establishing vegetation and maintaining it during dry periods. The planting of shrub lines provides a windbreak and also reduces wind-blown sand from the beach area.

Soils in Brevard County have been surveyed and mapped by the Soil Conservation Service in cooperation with the University of Florida. The soil is sandy type to depths of 60 inches or more. The soil permeability is greater than 20 inches per hour; available water capacity is 0.02 to 0.05 inches per inch of soil. Soil reaction is 6.6 to 8.4 pH. Original vegetative cover consisted of saw palmetto, scrub live oak, and salt tolerant shrubs such as sea grape and



Spanish bayonet. Soil tests made are representative of soils typed mapped. These tests indicate the soil has a high pH (7.5 – 8.0). Three soil associations are identified in the PAFB area: (1) Canaveral-Palm Beach-Welaka association; (2) Myakka-EauGallie-Immokalee association; and (3) Tidal Marsh-Tidal Swamp association.

### **3.5 Noise and Airspace Clear Zones**

#### **3.5.1 Introduction**

PAFB has two active runways. One is a Class B runway primarily intended for high performance and large heavy aircraft (as defined in *Table 3-3 UFC 3-260-01*) and is oriented 02/20. It is 9,022 feet long and 260 feet wide. The north overrun is 1,680 feet long and the south overrun is 1,000 feet long. The other runway is a Class A runway primarily intended for small light aircraft (as defined in *Table 3-3 UFC 3-260-01*) and is oriented 11/29. It is 4,000 feet long, and 200 feet wide. The west overrun is 320 feet long. There is no overrun to the east. See Map 1-3 for a depiction of the PAFB.

The following units conduct flight operations at PAFB:

- 920th Rescue Wing (RQW),
- U.S. Department of State – Aviation Division,
- National Aeronautics and Space Administration (NASA), and
- PAFB Aero Club.

#### **3.5.2 Noise**

Noise is unwanted sound that interferes with normal activities or otherwise diminishes the quality of the environment; it may be intermittent or continuous, steady or impulsive. Noise may also involve a broad range of sound sources and frequencies and be generally nondescript, or it can have a specific, readily identifiable sound source. The decibel (dB) is the accepted standard unit for measuring the level of noise and is generally adjusted to the “A-weighted” logarithmic scale (dBA) to better correspond to the normal human response to different frequencies. Several metrics have been developed for multiple-noise event analysis. The one most commonly used is the ( $L_{dn}$ ) metric. This is the dBA level averaged over a 24-hour period, with an additional ten-dBA penalty added for noise events occurring between 10 p.m. and 7 a.m. (because noise at night is judged to be more annoying than noise during the day). The threshold noise level for compatible land uses is  $L_{dn}$  65 dBA.



Areas outside (less than) of the 65-dBA  $L_{dn}$  contour are compatible with residential and other noise-sensitive land uses.

The goal of the Air Force Air Installation Compatible Use Zone (AICUZ) program is to promote compatible land development in areas subject to potential aircraft accidents and noise. As neighboring communities prepare and revise their land use development plans, recommendations from the latest AICUZ study should be considered, which would help avert off-base land use incompatibilities that may compromise an installation's ability to accomplish its mission. Aircraft accident potential and noise should be major considerations in the land use planning.

The noise contours provided in this study were developed using data on aircraft operations collected at PAFB in 1999. The following list provides examples of the types of information collected.

- Types and number of aircraft,
- Average daily operations by runway and type of aircraft,
- Flight track information (where flown),
- Flight profile information (how flown),
- Aircraft maintenance engine run-ups, and
- Hours of operation.

After verification, these data were input into the Department of Defense NOISEMAP computer noise model to produce Day-Night Average Noise Level (DNL) in units of decibels (dB). The DNL is the average sound level generated by all aviation-related activities during an average day. The DNL noise metric includes a 10 dB penalty added to sound levels for operations between 10 p.m. and 7 a.m. This penalty applies due to the increased annoyance created by noise events occurring during these hours. No penalty is applied for weekend or holiday daytime operations. Contours indicating noise exposure in DNL dB levels, in increments of five dB from 65 dB to 80 dB, were generated and plotted on Map 3-1. The Clear zone and Accident Potential Zones have also superimposed on the Map 3-1. A more detailed discussion of noise sources and constraints is contained in the PAFB AICUZ.



Construction noise would probably average between 70 to 90 decibels (a-scale) (db(A)) at construction site with peaks exceeding 100 db(A). These sound levels are typical of common construction equipment. Construction noise is not expected to have any significant impact on residential or public buildings. Impacts on residences would be reduced by restricting operation of construction equipment to normal daylight working hours on weekdays.

### **3.5.3            Airspace Clear Zones**

*Unified Facilities Criteria 3-260-01, Airfield and Heliport Planning and Design (the supersedent to Air Force Manual 32-1123(1))*, limits location and heights of objects around the airfield to minimize hazards to airfield operations. Certain obstructions are permitted, if necessary to airfield operations. Others are allowed as pre-existing non-conforming features. Waivers may be granted by the MAJCOM. There are a total of 59 individual obstructions on PAFB, which are all waived. MAP 3-2 illustrates locations of Airfield Obstructions on PAFB.

The Clear Zones for Runway 02/20 are 3,000 by 3,000 feet at each end. For Runway 11/29 they are 1,000 feet wide and 3,000 feet long. These areas must generally be kept free of aboveground structures. However, many buildings in the Main Base's Administration area of PAFB are within the Clear Zone for Runway 02/20 (the "Northern Clear Zone"). Conceptual designs contained in the Area Development Plans (see Appendix B) identify locations to move the Security Forces, DEOMI, AAFES Tire Shop & Gas Station, and several other facilities out of the Clear Zone. Due to limited funding for these relocations, it would not be economically feasible to remove all facilities immediately. Therefore, a phased removal involves demolishing facilities along O'Malley Road first via Military Construction ("MILCON") projects, as this corridor roughly conforms to the previous 2000-foot Clear Zone boundary. See Map 3-1 (Composite Constrains Map) for APZ/Clear Zones

There has been minimal off-base encroachment into the southern Accident Potential Zone I (APZ I) of Runway 02/20, according to a 2001 *Air Installation Compatible Use Zone (AICUZ) Study*. A civilian residential community on Tortoise Island was established during the mid 1990's, which is partially within the Day-Night Average Sound Level ( $L_{dn}$ ) 65-70 decibels (dB) noise zone. This community was developed after the institution of the AICUZ in 1979, which detailed the recommended land use restrictions. However, the County government





approved the housing in this area with the only restrictions being: 1) a declaration by deed to homeowners that the property lies within a noise and safety hazard zone; and 2) a requirement that home construction comply with noise attenuation standards. However, only a small segment of the development is impacted.

Table 3-3 summarizes airfield clearance criteria. On-base areas of concern are the Primary Surfaces, Transitional Surfaces, taxiways and aprons, and Clear Zones (See Map 3-1).

**Table 3-3 Airfield Clearance Criteria**

<b>Imaginary Surfaces (Class B Runway)</b>	<b>Clearance Requirements</b>
Primary	1,000 feet each side of the runway centerline
Transitional	From the outer edge of the Primary Surface - a 7:1 slope ratio to an elevation of 150 feet
Taxiway	200 feet from the taxiway centerline
Wingtip Clearance (Primary Peripheral Taxi lanes)	One half of the aircraft wingspan plus 30 feet (for aircraft with wingspans up 110 feet) or plus 50 feet (for aircraft with wingspans over 110 feet)
Clear Zone (CZ)	3,000 x 3,000 feet, centered on and extending from the end of the runway
Accident Potential Zone I (APZ I)	3,000 x 5,000 feet, extending from the CZ*
Accident Potential Zone II (APZ II)	3,000 x 7,000 feet, extending from APZ I*

Note:

\* DOD Instruction 4165.57, Air Installation Compatible Use Zones (AICUZ)

Source: UFC 3-260-01, Airfield and Heliport Planning Criteria



### **3.6 Ecological Resources**

#### **3.6.1 Vegetation**

##### **3.6.1.1 Historic Vegetative Cover on PAFB**

The 1943 Indian River Land Cover Map (B. Duncan, Dynamac Corp., 1995) illustrates the area that became PAFB as primarily composed of scrub. The west shoreline was vegetated with flatwoods, disturbed estuarine wetlands, and salt marsh.

##### **3.6.1.2 Current Native Vegetative Cover**

Surveys were conducted on the PAFB coastal dunes by Oddy et al. (1999) in July 1995 and September 1995. The comprehensive dune survey was repeated in May 1996 to determine any spring-flowering species not present or identifiable in the fall.

Dunes on PAFB constitute a narrow strip of vegetation bordered by the Atlantic Ocean, State Route A1A, Base Housing, or areas of mowed grass. Erosion has affected these dunes, including major storms in 1995 and 2004. However, beach nourishment projects in 2000-2001 have resulted in a wider beach that has exhibited retention of over 90% of the fill volume placed above mean high water according to Olsen Associates, Inc. Two-Year Post-Construction Physical Monitoring Report of December 2003. Sand nourishment and dune enhancement have also occurred in 2005. Retention of a wider beach generally implies less impact to the dune. The flora of the dunes, includes four major elements:

1. Common dune or coastal strand species such as sea oats, bitter panicum, beach sunflower, sea grape, spider lily and railroad vine;
2. Less common, state-listed dune species, beach star, inkberry, and prickly pear cactus;
3. Native species of disturbed or open areas such as ragweed (*Ambrosia artemisiifolia*), begger-ticks (*Bidens pilosa*), and southern crabgrass (*Digitaria ciliaris*); and
4. Introduced species such as sow thistle (*Sonchus asper*) and Vitex trifolia.

A few isolated mangrove communities exist in sparse distribution along the Banana River and the edges of some canals. State law affords some protection to black, white and red mangroves. Small areas of marsh are also present along the Banana River shoreline, with smooth cordgrass (*Spartina alterniflora*), salt grass (*Distichilis spicata*), sea daisy (*Borrchia arborescens*), cattail (*Typha latifolia*), groundsel (*Baccharis halimifolia*), and marsh elder (*Iva*



*frutescens*). Common wetland type plants, such as pennywort (*Hydrocotyle umbellata*), cat tail, rushes (*Juncus* spp., *Eleocharis* spp.), and sedges (*Carex* spp.) are found sporadically along the banks of water bodies, drainage ditches, canals and small depression areas on base. Aquatic plants and algae such as muskgrass (*Chara* spp.), Southern naiad (*Najas guadalupensis* and *N. marina*), water primrose (*Ludwigia* spp.), duck potato (*Sagittaria lancifolia*), duckweed (*Lemna valdiviana*), and blue-green filamentous algae are found in and around drainage canals and ponds as well.

Finally, submerged aquatic vegetation (SAV), i.e., seagrass has been noted in the Banana River along PAFB's western shoreline by St. John's River Water Management District (SJRWMD) through the use of aerial images (1999). The SJRWMD SAV map indicates patchy SAV beds in small areas along the shoreline with one area of continuous seagrass at the northern boundary. Seagrass transect field surveying by SJRWMD has revealed heavy beds of the algae *Caulerpa prolifera* and very little seagrass in the Banana River near PAFB. Generally, SAV is not found in water depths 10 feet or greater due to light attenuation. Seagrass is a food source for manatees and sea turtles, and is considered prime habitat for larval stages of fish and invertebrates. Refer to Section 3.6.3 addressing SAV as Essential Fish Habitat (EFH).

### **3.6.1.3 Invasive Exotic Flora**

Several species occurring on PAFB are considered Category I invasive exotic plants (Exotic Pest Plant Council 1995); these are species that are widespread in Florida and have an established potential to invade and disrupt native plant communities. Brazilian pepper, Australian pine, Melaleuca, cogon grass (*Imperata cylindrical*) hydrilla (*Hydrilla verticillata*), and torpedo grass (*Panicum repens*) are in this class. Brazilian pepper and Australian pine are prevalent on the Waste Study Site, the Small Arms Firing Range, the Family Camping Area, and along the southern extent of Runway 02/20. Brazilian pepper and Australian pine were introduced in Florida as early as the 1800s as indicated by records of seed catalogues. Both species are colonizers of disturbed areas and are quick to invade and overtake native communities.

Melaleuca occurs on the PAFB golf course and has been used as a landscape plant in other areas on base. Cogon grass is a hardy, invasive that has not been identified on PAFB, but has been observed in several Brevard County locations including Cape Canaveral. Torpedo



grass and hydrilla have been found in the drainage canals, wet areas of the lagoon fringe and in/around ponds on the PAFB golf course. Torpedo grass was also noted in one location on the dunes. Both PAFB and the surrounding areas are highly developed; therefore, most exotic plant populations on PAFB are not an immediate threat to intact native plant communities. However, EO 13112, *Invasive Species*, addresses the need to prevent the introduction of and provide for the control of invasive species to “minimize the economic, ecological, and human health impacts that invasive species cause.”

#### **3.6.1.4 Threatened and Endangered Floral Species**

No Federally listed rare or endangered plant species occur at PAFB. The following plants listed by the State of Florida or the Florida Natural Areas Inventory (FNAI) as deserving of protection have been observed on base: spider lily (*Hymenocallis latifolia*), beach star (*Remirea maritime*), inkberry (*Scaevola plumieri*), and prickly pear cactus (*Opuntia stricta*).

#### **3.6.1.5 Turf and Landscaped Areas**

Landscape character contributes to the image of PAFB, and to perceptions and attitudes about the base as a place to live and work. Thus, an important aspect of land management is the development of landscape appropriate for the military mission and human enjoyment. The entrances to PAFB have been landscaped and enhanced with architectural features that present a favorable first impression. As “gateways” to the base, these areas have special needs for landscape development.

Herbaceous vegetation represents 43% of the land area within PAFB and is the dominant vegetation type. Mowed grass, sparse, and dense herbaceous vegetation surrounds developed areas (i.e. golf course and facilities), roadways, and the Airfield. The beach and dune vegetation comprise 3.2% of the base land area, and is the most continuous natural community found on PAFB. Disturbed shrub and exotic species are the second most abundant types of vegetation. The presence of these shrubs and other non-native vegetation indicate that most of these areas have at one time been severely disturbed, allowing these invasive species to colonize nearly 21% of the non-developed areas.

Cabbage palms, the state tree of Florida, appear throughout PAFB and act as vertical accents beside walkways and buildings. Many palms of differing species occur along State Road A1A, along roadways within PAFB and, sparingly, as a separation between land uses.



Several other plants such as privet (*Ligustrum spp.*), live oak (*Quercus virginiana*), coontie (*Zamia sp.*), Norfolk Island pine (*Araucaria heterophylla*), sea grape (*Coccoloba uvifera*), Century plant (*Agave sp.*), oleander (*Nerium oleander*), hibiscus (*Hibiscus spp.*), and chastetree (*Vitex trifolia*) have been used as landscape specimens.

Sandy, infertile soils, erratic rainfall patterns, and a marine environment make it difficult to establish and maintain landscaping. Most of the base lacks shade trees due to Airfield Clear Zone requirements and has extensive paving, resulting in a great amount of sun reflection, heat, and glare throughout the summer months.

### **3.6.2 Native Fauna on Base**

Various species of wildlife inhabit, utilize, or frequent PAFB. PAFB is located within a barrier island ecosystem that is defined as an important natural area supporting many plants, animals, and communities. Barrier islands along the Atlantic coast are especially important for nesting sea turtles, populations of small mammals, and as foraging and loafing habitat for a variety of resident and migratory shorebirds, wading birds, and songbirds. Tables 3-4, 3-5 and 3-6 provide lists of fauna observed at PAFB.



Table 3-4 Birds Present on PAFB

Common Name	Scientific Name
Pied-billed grebe	<i>Podilymbus podiceps</i>
American White pelican	<i>Pelecanus erythrorhynchos</i>
Double-crested cormorant	<i>Phalacrocorax auritus</i>
Anhinga	<i>Anhinga anhinga</i>
Great Blue Heron	<i>Ardea herodias</i>
Great egret	<i>Ardea albus</i>
Cattle egret	<i>Bubulcus ibis</i>
Green heron	<i>Butorides virescens</i>
Black-crowned night heron	<i>Nycticorax nycticorax</i>
Glossy ibis	<i>Plegadis falcinellus</i>
Mottled duck	<i>Anas fulvigula</i>
Mallard	<i>Anas platyrhynchos</i>
Blue-winged teal	<i>Anas discors</i>
Northern shoveler	<i>Anas clypeata</i>
American widgeon	<i>Anas americana</i>
Ring-necked duck	<i>Aythya collaris</i>
Lesser scaup	<i>Aythya affinis</i>
Common moorhen	<i>Gallinula chloropus</i>
American coot	<i>Fulica americana</i>
Black-bellied plover	<i>Pluvialis squatarola</i>
Semipalmated plover	<i>Charadrius semipalmatus</i>
Killdeer	<i>Charadrius vociferus</i>
Willet	<i>Catoptrophorus semipalmatus</i>
Spotted sandpiper	<i>Actitis macularia</i>
Whimbrel	<i>Numenius phaeopus</i>
Ruddy turnstone	<i>Arenaria interpres</i>
Sanderling	<i>Calidris alba</i>
Dunlin	<i>Calidris alpina</i>
Common snipe	<i>Gallinago gallinago</i>
Laughing gull	<i>Larus atricilla</i>
Bonaparte's gull	<i>Larus philadelphia</i>
Ring-billed gull	<i>Larus delawarensis</i>
Herring gull	<i>Larus argentatus</i>
Great black-backed gull	<i>Larus marinus</i>
Caspian tern	<i>Sterna caspia</i>
Royal tern	<i>Sterna maxima</i>
Sandwich tern	<i>Sterna sandvicensis</i>
Black tern	<i>Chlidonias niger</i>
Osprey	<i>Pandion haliaetus</i>
American redstart	<i>Setophaga ruticilla</i>
Magnolia warbler	<i>Dendroica magnolia</i>
Black-throated blue warbler	<i>Dendroica caerulescens</i>
Black-throated green warbler	<i>Dendroica virens</i>
Prairie warbler	<i>Dendroica discolor</i>
Yellow-rumped warbler	<i>Dendroica coronata</i>
Savannah sparrow	<i>Passerculus sandwichensis</i>



**Table 3-5 Mammals Present on PAFB**

<b>Common Name</b>	<b>Scientific Name</b>
Raccoon	<i>Procyon lotor</i>
Opossum	<i>Didelphis virginianus</i>
Rabbits	<i>Sylvilagus spp.</i>
House mouse	<i>Mus musculus</i>
Armadillo	<i>Dasypus novemcinctus</i>
Gray squirrel	<i>Sciurus carolinensis</i>

**Table 3-6 Amphibians and Reptiles Present on PAFB**

<b>Common Name</b>	<b>Scientific Name</b>
Alligator	<i>Alligator mississippiensis</i>
Green tree frog	<i>Hyla cinerea</i>
Brown anole	<i>Anolis sagrei</i>
Corn snake	<i>Elaphe guttata guttata</i>
Northern black racer	<i>Coluber constrictor</i>
Florida cooter	<i>Chrysemys floridana</i>
Florida softshell	<i>Trionyx ferox</i>
Snapping turtle	<i>Chelydra serpentina</i>

#### **3.6.2.1 Threatened and Endangered Faunal Species**

A threatened and endangered species survey was completed for PAFB in April 1997 (Oddy et al. 1999). The objective of the project was to survey PAFB for threatened and endangered species to develop a more detailed and accurate database for reference during development of NEPA, ESA, and other regulatory documentation as well as provide information to guide wildlife and biotic resource management. The species lists are subject to change pending future species listings and delistings. There are no formally designated critical habitat areas located on PAFB, according to the Integrated Natural Resources Management Plan (INRMP), a PAFB component document that inventories natural resources and the procedures for managing and conserving them. Table 3-7 provides a current list of threatened and endangered species on PAFB. Descriptions of all threatened and endangered species listed below can be found in the INRMP, in Section 5.4.1; therefore, only information unique to PAFB would be discussed for each.



Table 3-7 Threatened and Endangered and Other Protected Faunal Species, PAFB

Common Name	Scientific Name	Status	
		Federal	State
Amphibians and Reptiles			
Kemp's Ridley Sea Turtle*	Lepidochelys kemp	E	E
American Alligator	Alligator mississippiensis	T (S/A)	SSC
Eastern Indigo Snake	Drymarchon corais couperi	T	T
Atlantic Loggerhead Turtle	Caretta caretta	T	T
Atlantic Green Turtle	Chelonia mydas	E	E
Leatherback Turtle	Dermochelys coriacea	E	E
Hawksbill Turtle *	Eretmochelys imbricata	E	E
Gopher Tortoise	Gopherus polyphemus		SSC
Atlantic Salt Marsh Snake*	Nerodia clarkii taeniata	T	T
Birds			
Roseate Spoonbill*	Ajaia ajaja		SSC
Piping Plover*	Charadrius melodus	T	T
Little Blue Heron	Egretta caerulea		SSC
Reddish Egret*	Egretta rufescens		SSC
Snowy Egret	Egretta thula		SSC
Tricolored Heron	Egretta tricolor		SSC
White Ibis	Eudocimus albus		SSC
Southeastern American Kestrel	Falco sparverius paulus		T
Arctic Peregrine Falcon	Falco peregrinus tundris		E
American Oystercatcher	Haematopus palliatus		SSC
Bald Eagle	Haliaeetus leucocephalus	T	T
Wood Stork	Mycteria americana	E	E
Brown Pelican	Pelecanus occidentalis		SSC
Black Skimmer	Rynchops niger		SSC
Least Tern	Sterna antillarum		T
Burrowing Owl	Athena Cunicularia		SSC
Roseate Tern	Sterna dougallii	T	T
Southeastern Snowy Plover	Charadrius alexandrinus tenuirostris		T
Mammals			
Manatee	Trichechus manatus	E	E
Right Whale *	Balaena glacialis	E	E
Sei Whale *	Balaenoptera borealis	E	E
Finback Whale *	Balaenoptera physalus	E	E
Humpback Whale *	Megaptera novaeangliae	E	E

Notes: SSC – Species of Special Concern

T – Threatened

E – Endangered

S/A – Similar in Appearance

\* Not observed on PAFB, but known to occur in the vicinity

Information obtained from Integrated Natural Resource Management Plan –2001 and U.S. Fish and Wildlife Service Threatened and Endangered website (<http://endangered.fws.gov/wildlife.html#Species>).





### **3.6.2.2 Sea Turtles**

Each year, between May and October, over 1,500 loggerheads, up to 40 green sea turtles, and potentially 1-2 leatherback nests are deposited on the seven kilometers of PAFB beach. A sea turtle conservation project, funded by the Air Force, has been tracking all species of sea turtle nests on PAFB since 1987. Additionally, the PAFB beach is part of the Index Nesting Beach Program that is carried out statewide each year. Biologists from the University of Central Florida conducting sea turtle work on PAFB also are involved in sea turtle stranding and salvage operations.

### **3.6.2.3 Florida Manatee**

The Florida manatee, a subspecies of the West Indian Manatee, inhabits the estuarine waters of the Banana River on PAFB's western shoreline, the Outdoor Recreation boat dock along the north central western edge as well as the base marina on the southwest portion of PAFB. These slow moving native Florida mammals utilize the shallow waters near the shoreline for feeding, resting, and breeding. Up to six to eight hours each day is spent feeding. They consume about ten percent of their body weight daily, or about 60 to 100 pounds. They are herbivorous, and eat a large variety of submerged, emergent, and floating plants. Boat collisions and loss of seagrass beds are both major threats to manatees.

### **3.6.2.4 American Alligator**

The American alligator (*Alligator mississippiensis*) is a federally listed as a threatened species due to similarity of appearance to the American crocodile (*Crocodylus acutus*), which is not found in this northern region of Florida. The alligator has made a strong recovery in Florida. Although alligators inhabit and reproduce in the Banana River, alligators aren't frequently observed near PAFB. They have been observed on PAFB in ditches in and around the golf course and along the Banana River fringe. Informing the public via the use of "No Feeding" signs should greatly reduce the chance of any alligator becoming a nuisance and having to be removed.

### **3.6.2.5 Eastern Indigo Snake**

No species-specific survey has been conducted for the eastern indigo snake; however, observers performing other surveys have looked for indigos and have not documented any on PAFB. The indigo snake is a commensal creature that utilizes gopher tortoise burrows.



Due to the large home range requirements of this species, the small number of gopher tortoise burrows, and the highly developed and fragmented nature of PAFB, it is not likely that PAFB supports a population of eastern indigo snakes.

#### **3.6.2.6 Wood Stork**

A large number of water birds have been observed using the golf course, the ditches and herbaceous areas surrounding the airfield, and the Banana River shoreline. A concern for birds using these habitats is the water quality. The golf course wetlands receive inputs of pesticides, herbicides and fertilizer from greens maintenance activities. The ditches and other areas surrounding the airfield may receive inputs of contaminants from aircraft as runoff from the runway surfaces. The wood stork has been observed on PAFB, but not in large numbers.

#### **3.6.2.7 Bald Eagle**

Bald eagles have been observed on PAFB, near the Banana River and the runway. Since no suitable bald eagle nesting habitat exists on PAFB, most sightings are probably individuals utilizing the river as feeding grounds.

#### **3.6.2.8 Piping Plover**

The piping plover is not known to breed in Brevard County. It has however been spotted on Brevard beaches during non-breeding season (July-March). The main threat to this species in Florida is disturbance by humans using their primary habitat, the open beaches.

#### **3.6.2.9 Roseate Tern**

The Roseate Tern breeds at scattered coastal locations in the eastern United States. It migrates over the ocean and is rarely encountered except at the breeding colonies. Habitat is rocky coastal islands with sandy or pebble beaches, and also on open grassy habitat. Nesting is on rocks or sand, sometimes lined with grass, seaweed.

#### **3.6.2.10 Other Protected Species**

Least terns, a state threatened species, have been observed in numerous locations on PAFB, including documented nesting on roofs. They are not known to nest on the beach adjacent to PAFB, but utilize the area as roosting habitat.



The Arctic Peregrine Falcon is a state endangered bird that passes through Florida during migration; a few remain in Florida during the winter. Because it is difficult to differentiate between the subspecies, all peregrine falcons observed on PAFB should be considered protected. Peregrine falcons have been observed on PAFB, however they have not been identified to subspecies.

Likewise, the Southeastern American kestrel is a resident subspecies occupying a portion of the southeastern coastal plain from South Carolina south to Alabama and Florida. It is listed by the state as a threatened species. It is difficult to differentiate this subspecies from the more widespread American Kestrel (*Falco sparverius paulus*), which winters in Florida. Kestrels have been observed on numerous occasions at PAFB; however, none have been identified to subspecies. Observations have been made near the airfield, golf course, and near the Banana River at the south end of the base. No kestrels have been observed in the summer, suggesting that no Southeastern American kestrels were occupying PAFB during those observation periods.

The Southeastern Snowy Plover is pale plover of the Gulf Coast and is similar to Piping Plover but with a slim black bill, blackish legs, and a dark ear patch. Their habitat is beaches and sand flats; and nests in depressions in the sand or on the ground.

#### **3.6.2.11 Other Managed Species**

There are other species managed on PAFB that are not listed on state or Federal threatened or endangered lists. Laws other than the ESA protect some of these species, while others have existing programs or studies that have been performed to determine presence and/or population estimates. Several species are listed as State Species of Special Concern (SSC) because of habitat loss. Some examples are the gopher tortoise, snowy egret, little blue heron, burrowing owl, etc.

#### **3.6.2.12 Gopher Tortoise**

The only known gopher tortoise burrows on PAFB are located at the Waste Study Site. The survey completed for burrows was completed in May 1996, when five burrows were counted. Three tortoises were confirmed through the use of a burrow camera.



The Waste Study Site is surrounded on three sides by water and on the fourth by the Small Arms Firing Range. This results in an isolated population with no potential for natural recruitment. Furthermore, it is likely that this population of tortoises was introduced. Personal communications with Air Force personnel in the past indicated that gopher tortoises found attempting to cross roads were relocated to the Waste Study Site. If this is the case, it is unknown where the tortoises originated from and whether they have Upper Respiratory Tract Disease (URTD).

#### **3.6.2.13 Migratory Birds**

PAFB is located along one of the major migratory pathways for neo-tropical migrants that breed in eastern North America. Therefore, habitat on PAFB that is suitable for migrants is of conservation concern. During various other surveys conducted at PAFB in 1996, many neo-tropical were observed using the dune habitat.

Currently there are three active osprey nests located on PAFB. Like Cape Canaveral AFS (CCAFS), antennas provide optimal nesting areas for this species. To date, six osprey nesting platforms have been erected on PAFB to prevent nesting on manmade structures.

#### **3.6.2.14 Bats**

A presence/absence survey has not been completed at PAFB to verify the occurrence of bats. A pollution prevention project in the late 1990's funded purchasing and erecting bat houses at various locations on the base to attract them. It is hoped that the presence of bats would decrease the amount of pesticides necessary for mosquito control.

#### **3.6.3 Essential Fish Habitat**

Federally funded projects are required to address EFH requirements as mandated by the 1998 amendments to the Magnuson-Steven Fishery Conservation and Management Act. Essential Fish Habitat can generally be defined as waters and substrates necessary to fish for any or all stages of their life cycle. Estuarine emergent vegetated wetlands, tidal creeks, estuarine scrub/shrub, oyster reefs and shell banks, unconsolidated bottom (soft sediments), artificial reefs, coral reefs, and live/hard bottom habitats are also EFH for specific life stages of estuarine dependent and near shore managed species. Regional Fishery Management Officials are responsible for designating EFH in their management plans for all managed species. The South Atlantic Fishery Management Council (SAFMC)



is the managing body for the PAFB vicinity. The SAFMC currently manages for postlarval and juvenile red drum (*Sciaenops ocellata*), white shrimp (*Litopenaeus setiferus*), pink shrimp (*Farfantepenaeus duorarum*), and brown shrimp (*Farfantepenaeus aztecus*) in the PAFB area. The SAFMC has also designated SAV as a Habitat Area of Particular Concern (HAPC) for postlarval/juvenile and subadult pink shrimp and postlarval/juvenile and subadult red drum in the PAFB area. HAPCs are subsets of EFH that are rare, particularly susceptible to human-induced degradation, have special ecological importance, or are located in an environmentally stressed area. Detailed information on the federally managed fish discussed above and their EFH is contained in the 1998 Amendment of the Fishery Management Plans for the South Atlantic (SAFMC 1998).

The Banana River area offshore of PAFB may also provide nursery and forage habitat for black drum (*Pogonias cromis*), Atlantic menhaden (*Brevoortia tyrannus*) and blue crab (*Callinectes sapidus*) that are prey for the SAFMC managed species of mackerels, snappers and groupers.

#### **3.6.4 Wetlands**

Wetlands as defined in 40 CFR 230.3, 33 CFR 328.3 as well as subsection 373.019 (17), Florida Statute, are those areas that are inundated or saturated by surface water or ground water at a frequency and a duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soils. Soils present in wetlands generally are classified as hydric or alluvial, or possess characteristics that are associated with reducing soil conditions. The prevalent vegetation in wetlands generally consists of facultative or obligate hydrophytic macrophytes that are typically adapted to areas having soil conditions described above. These species, due to morphological, physiological, or reproductive adaptations, have the ability to grow, reproduce or persist in aquatic environments or anaerobic soil conditions. Florida wetlands generally include swamps, marshes, bayheads, bogs, cypress domes and strands, sloughs, wet prairies, riverine swamps and marshes, hydric seepage slopes, tidal marshes, mangrove swamps and other similar areas. Florida wetlands generally do not include longleaf or slash pine flatwoods with an understory dominated by saw palmetto.



The base has a number of ponds and drainage ditches, primarily to the west of and in Central Housing, on the golf course, near the runway, and connected to the Banana River. The ditches were created in the 1950s for drainage and irrigation water.

Potential wetland areas have developed along the banks of these ponds and ditches, where there is suitable habitat for vegetation including water pennywort, duckweed (*Lemna* sp.), cattail, needlerush (*Juncus* sp.), and sedges.

Small areas of freshwater wetland habitat occur around ponds and drainage canals, and minor brackish wetland habitat has been noted by the U.S. Army Corps of Engineers along the Banana River shoreline, mostly around outlets of drainage canals. Brackish wetland plants include three species of mangrove, with red and black mangrove most abundant along the shoreline. Potential wetlands are shown on Map 3-1A.

### **3.6.5 Floodplains**

Floodplains are lowland, relatively flat areas adjoining inland and coastal waters that are subject to flooding. The 100-year floodplain is that area subject to a one percent or greater chance of flooding in any given year. According to the Federal Emergency Planning Administrations (FEMA) Flood Insurance Rate Map (FIRM), the 100-year floodplain extends seven feet above mean sea level (AMSL) on the ocean side and four feet above AMSL on the Banana River side. The 100-year floodplain is projected on Map 3-1A. Potential flooding in these areas would inundate most of North Housing, the Survival Canal and Family Camping area, the golf course, and the southern extent of the runway.

### **3.6.6 Coastal Zone Management**

The Florida Department of Natural Resources established the "Coastal Construction Setback Line" in an effort to control shoreline erosion. In Brevard County, this zone extends from the mean high water (MHW) level inland 75 feet, to include the natural coastal dunes. Some activities are allowed; however, no new construction projects are permitted within the Coastal Construction Setback Line. Map 3-1 shows the Coastal Setback Line.

Although technically excluded from the provisions of this restriction, PAFB adheres to its tenets to the maximum extent possible, consistent with mission requirements.





### **3.7 Infrastructure**

#### **3.7.1 Drinking Water System**

The City of Cocoa is contracted to supply up to 6,500,000 gallons per day to PAFB, Cape Canaveral Air Force Station, and Kennedy Space Center. The city's water is delivered through a 16-inch water main entering PAFB at the intersection of the north boundary of the Base and State Road A1A, where it is further chlorinated and distributed throughout the base through 2, 12-inch metered service mains. New treatment facilities were installed to a pump station in a 2001 project (New Pump House). A water quality monitoring system was also installed in 2002 to track chlorine, pH, ammonia, and pressure.

Minimum potable water usage at PAFB is approximately 1,000,000 gal/day, occurring in the winter months. Maximum usage at PAFB is about 3,648,000 gal/day, occurring during the summer months. These usage quantities are expected to decrease by 20%, when South Housing is privatized.

In addition to the water supplied by the City of Cocoa, the City of Melbourne agrees to furnish 1,000,000 gallons of water per day, as needed. PAFB would reciprocally provide the City of Melbourne with 1,000,000 gallons of water per day, as needed and as available. PAFB is tied into three separate City of Melbourne water mains: a 16-inch main, a 12-inch main, and a 10-inch tie-in.

Another source of water, although non-potable, is a deep-well system, which draws from the *Florida Aquifer system*. The water from the wells is corrosive in nature and has an excessive amount of chlorides and total dissolved solids, which exceed the Florida Water Drinking Standards. Well water is used only in commercial and some common areas where feasible. The capacity of active wells is approximately 760 million gallons per year.

One potable water pump station exists on the installation proper. The total domestic water capacity of elevated and ground level tanks is 600,000 gallons. Because the water towers currently operate at lower pressure than the distribution system, stored water is available as an emergency supply only. Recirculation systems were recently added Supply-CCAFS/PAFB 6,500 Usage-CCAFS 500 to 1,000 Usage-PAFB 1,000 to 3,800 Availability-CCAFS/PAFB (Best Case) 5,000 Availability-CCAFS/PAFB (Worst Case) 17,000 *Source: 45 CES, March 1999.*



The supply of domestic water from the City of Cocoa is more than adequate, at present. If more water is needed, arrangements with the City of Cocoa could be effected. If required, the City of Melbourne could also provide water.

For non-potable well water, PAFB does not currently have the necessary equipment to treat and filter water that can be drawn through the non-potable deep-well system. Therefore, this is not an acceptable alternative water source for human consumption at this time. The supply of non-potable re-use water from the City of Cocoa Beach is currently strained. The daily supply during summer months is currently 800,000 gallons per day (GPD), 3 days per week. The peak (drought) demand for this water, which is used to irrigate the Golf Course and some housing common landscape areas, exceeds one million GPD. Thus, the supply of re-use water for irrigation is less than adequate and potable water must be used to make-up the difference during times of drought. Therefore, conservation measures or alternative sources of water would have to be considered.

The majority of the potable water mains were installed and upgraded at various times between 1952 and 1958; exceptions are all new mains in the Central and North Housing Areas. The water pump stations are 40 years old, on average. Much of the newer piping is PVC, but some asbestos cement pipe or ductile-iron pipes remain (both are usually unaffected by corrosive soil conditions). Although the water mains are in relatively good condition, the 2-inch galvanized steel pipe, used as water service lines, is deteriorating because of corrosion. Considering the water distribution and pump system's age, a phased repair and replacement project is recommended. Therefore, a phased base-wide replacement of the water distribution system is planned as an out year project. Map 3-3 shows the Primary Water System.

### **3.7.2 Sanitary Sewer System**

The City of Cocoa Beach treats wastewater generated at PAFB. The base's wastewater is conveyed to the City of Cocoa Beach for treatment via lift station #650 through approximately 47 miles of underground sanitary sewer lines to the wastewater treatment plant of the City of Cocoa Beach, six miles away. The Water Reclamation Department of Cocoa Beach, in turn, provides treated wastewater to PAFB via a Reuse Water System for irrigation purposes.



The majority of the sanitary sewer lines are gravity lines, although force mains exist in some areas. The vitrified clay and PVC gravity sewer lines are reported to be in fair condition. The force mains are steel and PVC, and are reported to be in good condition. Service connections of cast iron material are showing degrees of deterioration from internal corrosion.

Adjacent to the new north lift station is a 140,000-gallon wet-well, designed to store wastewater prior to pumping to the City of Cocoa Beach for treatment. There is a standby tank, adjacent to the new south lift station, which gives the Base the capability to hold wastewater six hours (with appropriate water rationing and low-use restrictions in South Housing) in the event a force main becomes temporarily inoperable.

Wastewater generated on base includes domestic wastewater, and small quantities of typically deposited industrial waste, e.g. solvent mixtures. New sewer lines service the new North and Central Housing Areas. Map 3-4 depicts the general location of the sewer system. The base uses treated wastewater effluent, provided by the City of Cocoa Beach, for irrigation. The City constructed a 16-inch reuse water supply line to the north end of PAFB. From there, a 14-inch reuse main runs along the west side of the Base to the lake and furnishes irrigation water for the Golf Course, the Central and North Housing Areas, the Base Exchange, and the Hospital's landscaped areas. Projected availability of reuse water is a maximum of 500,000 GPD with an option, being considered, to supplement reuse water with ground water.

At full occupancy of the North and Central Housing Areas, estimated average daily flow of wastewater would be 360,000 to 400,000 gallons per day (GPD). By contract with the City of Cocoa Beach, the City has reserved a treatment capability of 2.0 MGD for PAFB. The contract would be annually reviewed for reserved peak flow adjustment, as necessary. Using the present reserved flow capacity of 2.0 million gallons per day (MGD) and average daily flow of 380,000 GPD is a residual capacity of .820 MGD (1.2 MGD capacity – 380,000 GPD use). Allowing 100 gallons per capita per day (gpcd), equates to an expansion capability of 8,200 persons. However, this calculation does not consider treatment of industrial waste or the potential for inflow and infiltration, which could be high during wet weather periods, but which would be reduced with the privatization of the South Housing Area.



### **3.7.3 Storm Water Drainage System**

The storm drainage system for PAFB is a separate system; i.e., it is not combined with the flow of wastewater in the sanitary sewer system. The storm drainage system is "open" in part, and "closed" in part. The open drainage system conveys storm runoff by overland flow (drainage ditches), gutters, channels, and swales, to a point of discharge (Banana River) or constraint (ponds and lakes). Please refer to Map 3-5, *Primary Storm Water Drainage*. As part of the normal maintenance routine at PAFB, canals and drainage ditches must be maintained to prevent the overgrowth of plants and trees that may hinder flow and increase flooding probability. Furthermore, uncontrolled vegetative growth provides a potential habitat for birds at PAFB, which could cause Bird/Aircraft Strike Hazard (BASH) problems around the runways.

The closed system, installed in 1949, consists of a network of catch basins, pipes (about 17.5 miles) and connections beneath the drainage area. Storm water flows to either the Banana River or the Atlantic, where it is discharged. Storm runoff also percolates into the sandy-type soil. Storm water discharges for PAFB are addressed under the General Permit for Multi-Sector Storm Water Discharge Associated with Industrial Activities regulated by EPA. PAFB regulates the storm water run-off under its Storm Water Pollution Prevention Plan (SWPPP).

### **3.7.4 Electric System**

Electrical service for PAFB is supplied by *Florida Power & Light* (FP&L) at a transmission lines connect to a North Substation and a South Substation, both owned by FP&L. The substations convert the incoming 138-kilovolt (kV) electricity to a nominal distribution voltage of 13.2 kV, and then route the power to government-owned switchgear located adjacent to the substations. Electricity is then distributed throughout the base via feeder lines from the substations: four from the North Substation, and six from the South Substation. Two of the North Substation feeders can be interconnected with two of the South Substation feeders via a tie switch. At current load-levels, either substation can supply all loads when the feeders are tied. Other than these feeders, which would be fully loaded during interconnection, load shifting between the two substations is not possible.

Transformer capacity at the North Substation is 40,500 kilovolt-amperes (kVA), and the South Substation is 89,600 kVA. PAFB's historical peak load is well below either



substation's capacity. The current (5 year historical) combined substation peak demand is 17,362 (7,537-kilowatt (kW) at the North Substation and 9,825 kW at the South Substation). The base level demand for the South Substation would decrease by 1,800 kW in April of 2004 when FP&L picks up Capehart (South) Housing loads.

Of the primary and secondary electrical distribution lines, approximately 2 percent are overhead, and the remainder is underground. The overhead distribution system, which includes poles, transformers, and hardware are adversely impacted by salt air contamination, high winds, bird interference, and lightning strikes. See Map 3-6, *Primary Electric* for locations of primary electrical lines.

Additionally, upgraded feeders have been installed to facilitate faster load shifting. A centralized, electrical 7 mW back-up generation system located at the south substation can provide continuous power to all non-housing loads in the event all commercial power is lost. Facilities requiring back-up power are also independently supported. Such facilities include the Hospital, the Communication Center, the Command Post, AFTAC, and lift stations. As illustrated in Table 3-8, allowing 2.5 kW per capita as provided by electrical design criteria, and a power factor of 0.9, PAFB has the capacity to accommodate a population increase of 7,261.

**Table 3-8 Additional Substation Capacities**

Substation	Peak Demand	Transformer Capacity	Thermal Capacity	Additional Persons
North	7,789 kVA	40,500 kVA	18,882 kVA	3,293
South	11,259 kVA	89,600 kVA	25,096 kVA	3,968
<b>Total</b>	<b>19,048 kVA<sup>1</sup></b>	<b>130,100 kVA</b>	<b>43,978 kVA</b>	<b>7,261</b>

Notes:

- 1 The total peak demand is the total of each substation's peak demand, occurring independent of the other. A planning demand figure is the coincidental peak demand, which is approximately 25,100 kVA.

Number of PN =  $0.9 \text{ Power Factor} \times (\text{Thermal Capacity} - \text{Peak Demand kVA}) / 2.5 \text{ KW/PN}$



### **3.7.5 Central Heating/Cooling Systems**

The Central Heating Plant (Building 314) has three boilers of 14,700 million British thermal units (MBTU) each for a total heating capacity of 44,100 MBTU. The fuel source is natural gas supplied from City Gas Company, located in Rockledge, Florida. The back-up fuel is oil. Boiler usage is two boilers running at one-half to three-quarters months of the year; the third boiler is a backup.

The Central Heating Plant provides space heat to the main base area (excluding family housing which is electrically heated by individual housing units, the Hospital, and the AFTAC building) with high-pressure steam heat at 100 pounds per square inch gage (psig) nominal pressure. The piping system is a two-pipe system: steam supply and condensate return. Lines are 50 percent underground and 50 percent aboveground insulated with asbestos. These lines are routinely inspected and pressure tested by plant personnel. The Hospital and the AFTAC building each have their own central heating system. The Hospital has a high pressure steam system (nominal 70 psig) with a heating capacity of 9,714 MBTU. The AFTAC facility has a hot water heating system with a capacity of 7,200 MBTU. There are small-centralized cooling systems installed at PAFB. Cooling is provided by separate cooling units connected to single or several grouped buildings.

There is significant residual capacity of the Central Heating Plant because it operates only about three months of the year. The three boilers are approximately 10 years old, and in excellent condition. The piping system, initially installed over 45 years ago, is in poor condition. Additionally, many components of the system are insulated with asbestos. With the base-wide replacement of steam lines, the condition of the piping system is expected to be brought up to acceptable condition.

### **3.7.6 Natural Gas System**

City Gas Company supplies natural gas to PAFB. One four-inch line enters the Base from the north, a second four-inch line enters at AFTAC, and a two-inch line enters from the south. There is no limit on gas supply. Average usage at PAFB is approximately 25,000 MBTU. Approximately 0.6 miles of gas lines, installed in 1999, and owned and maintained by PAFB, distribute low-pressure gas to the Central Heating Plant, to the Medical Clinic, to AFTAC, and to individual building heating plants. City Gas has recently installed gas lines



into the North and Central Housing Areas. See Map 3-7 for an illustration of the natural gas system.

Whenever practicable and economically feasible, gas lines should be looped within the main base area. As evidenced by PAFB's Map 3-7, *Natural Gas Distribution*, there are a number of "dead ends" in the gas distribution lines. A "loop system" for gas distribution is preferable to a system containing dead ends to allow continuous circulation and maintain pressure.

### 3.7.7 Liquid Fuel System

The liquid fuel system includes all fuel delivery, storage, and distribution facilities. Seventy-one of the 75 liquid fuel storage tanks are aboveground. All in-use tanks comply with current regulatory requirements. Availability of fuel has not been a constraint. Supplies are arranged through the Defense Logistics Agency (DLA), and are delivered exclusively by tanker truck. The concrete storage tanks are considered "cut and cover", and are not subject to corrosion deterioration. For locations of fuel storage tanks, please refer to Map 3-8. Table 3-9 shows the Liquid Fuel Storage Tanks and Capacity.

**Table 3-9 Liquid Fuel Storage Tanks and Capacity**

Description	Category Code	Number of Storage Tanks	Total Capacity (Gallons)
Operating Diesel Storage Tank	124-134	7	30,700
Operating Jet Fuel Storage Tank	124-135	4	100,000
Operating MOGAS Storage Tank	124-137	4	48,000
AVGAS Storage	411-131	2	10,000
Diesel Storage JP-8	411-134	6	150,000
Jet Fuel Storage	411-135	9	700,000
Used / Waste Oil		6	7,700
MOGAS Storage	411-137	3	54,000
Heating Fuel Oil Storage	821-112	30	10,070
Fire Pit / Training		3	3,000
MOB Radar		1	250
<b>Total</b>	<b>--</b>	<b>75</b>	<b>1,113,720</b>

Note:

All storage tanks listed in this table are above ground except four Operating MOGAS Storage Tanks (Category Code: 124-137), at the AAFES gas station / Class Six Store (Installed in 1995), which meet all regulatory Standards.





### **3.7.8 Communications**

A discussion of communications begins with the Air Force Space Command Range System, comprised of the Eastern Range (ER) operated by the 45 SW, and the Western Range at Vandenberg AFB, CA. The Eastern Range, headquartered at PAFB, is staffed and organized to support the following mission:

- Provide spacecraft processing, launch and tracking facilities, safety procedures, and test data to a variety of customers, and
- Manage launch operations for DoD space programs.

Range support is distributed from CCAFS down the coast to PAFB, Jonathan Dickinson Missile Tracking Annex (JDMTA), Malabar Tracking Annex (MTA), and downrange tracking sites at Antigua and Ascension Islands. There are varying configurations of radar, telemetry, optics, command, data processing, timing, communications, meteorology, and other activities at each site. An extensive communications network consists of communication satellites; microwave links; high frequency (HF), very high frequency (VHF), and ultra high frequency (UHF) radio systems; and various landline links to connect the ER sites and stations with each other and the world.

The main components of the communication system at PAFB listed below are discussed in more detail in the PAFB General Plan:

- Long Haul Systems
- Transistorized Operations Phone System (TOPS)
- Microwave
- Voice and Data
- Local Area Networks (LAN)
- Metropolitan Area Network (MAN)
- Video Systems
- Land Mobile Radio (LMR)
- Target C4I Architecture

### **3.7.9 Transportation**

The roadway network at PAFB is made up of arterial, collectors, and local roads. There is only one arterial (South Patrick Drive) on the Base. This arterial carries the majority of the



north-south traffic and connects most areas of the Base. South Patrick Drive runs from the South Gate at Pineda Expressway to the intersection of O'Malley Road and Atlas Avenue, in the Main Base area. It provides primary access to the southern Base area including the Central Housing Area, the Base Exchange, Commissary, Medical Clinic, Golf Course, and Marina. South Patrick Drive is partially 4-lanes (south of the South Tech Drive intersection) and partially 2-lanes (north of South Tech Drive). It also extends south of the installation to the City of Satellite Beach, serving the South Housing Area.

There are several collector roads on the PAFB roadway network. Among them are: Jupiter Street, Atlas Avenue, O'Malley Road, Falcon Avenue, and Spacelift Avenue. One of these roadways, Jupiter Street, provides access to the main gates and to State Highway A1A (SH A1A). Atlas Avenue is a 2-lane collector that runs from O'Malley Road to the River Industrial Area. Falcon Avenue and Spacelift Avenue are 2-lane collector roadways that provide north-south access in the Main Base area. Vehicular access onto the Base via the main gate is a concern due to short morning delays for northbound traffic on SH A1A making left turns through the Main Gate at Jupiter Street.

PAFB has easy access to an excellent roadway and interstate road system, bus and rail access linking the Base to surrounding areas, and nearby airports providing national and international air travel. Roads available to PAFB are modern, well maintained, and fully adequate to support the Base's traffic needs.

Interstate Road 95 (I-95), which passes along the eastern seaboard of Florida and to the west of PAFB is a major north-south route. State Road 404, known locally as the Pineda Expressway, is an east-west highway that joins SH A1A to I-95. Florida State Road 528 (Beachline Expressway) is an east-west arterial that connects SH A1A, and PAFB, to Orlando. Finally, United States Highway 1 (US-1) along with Florida SH A1A are important north-south routes. In fact, SH A1A passes directly through the east side of the installation, separating the main installation from the beach areas.

PAFB has three controlled gates. The Commercial/Truck Inspection Gate provides a security checkpoint for larger vehicles accessing the Base off of A1A just south of the AFTAC facility. The Main Gate provides access from SH A1A to Jupiter Street in the Main



Base area, and the South Gate, accessing South Patrick Drive from Pineda Expressway at the south end of the Base.

### **3.8 Land Use**

#### **3.8.1 Introduction**

A primary goal of effective land use planning is to create an environment for people to work, play, and live that is functional, efficient, and pleasant. Throughout the planning process, analysts evaluate existing land use and transportation systems, using site and facility planning to produce an arrangement of compatible and functional activities that address future requirements. By using a collaborative process, land use planning results in a plan that provides a logical and realistic direction for future development on base.

At PAFB, land use planning is constrained by a number of factors, including historic development patterns, land configurations, systems technology and military strategy. The array of land uses and the locations of buildings, roads and utilities have changed over time, as missions and needs have evolved. The placement of activities has also responded to the physical and natural environments that existed when each use was developed. Therefore, planning for the location of infrastructure, the proximity of functionally related activities, and the specific needs of installation personnel has been a challenging process of overcoming land use obstacles at PAFB.

#### **3.8.2 Existing PAFB Land Use**

The PAFB contains 2,313 acres of land of which 82 acres are water. It is split into two land parcels, with the South Housing Area physically located one mile south of the base and surrounded by Brevard County and the City of Satellite Beach. The predominant land use on PAFB is associated with the Airfield, which uses 728 acres for Runways, Taxiways and Aprons, and 34 acres for Aircraft Operations and Maintenance. The other main land uses on PAFB include 153 acres for Family Housing and 252 acres for Outdoor Recreation, most of which is occupied by the Golf Course and the Marina.

Industrial land use encompasses 217 acres, while 75 acres are Administrative land use. There are 329 acres of Open Space on the Base, but a large part of it is found on the 4.2 mile Atlantic Ocean beachfront, which is not a buildable area. There is also some Open



space on the east side of the airfield and along the Banana River to the west of the airfield, which may be available for facility development.

Smaller land uses include Community Commercial (73 acres), Community Service (12 acres), and Unaccompanied Housing (23 acres) areas and take up 108 acres total. Medical land use accounts for 22 acres of on-base land use. The Industrial area located along the Banana River abuts the base's Administrative and Unaccompanied Housing areas.

Several types of land uses occur on sites within the Airfield Clear Zones, including Industrial, Administrative, Community Services and Commercial, and Outdoor Recreation facilities. One of the more unique land uses at PAFB is a two-acre plot of Launch and Range Control property located east of SR-A1A, south of the NCO Club, which supports the CCAFS launch mission.

Table 3-10 summarizes the major land use types and acreages by category and illustrated in Map 3-10. A detailed discussion of existing and future land uses is presented in the PAFB General Plan.

The following table, Table 3-10, is a brief description of existing land uses at PAFB:

**Table 3-10 Existing Facilities**

Land Use Category	Facility Type	Acres	% Total
Airfield/Runway/ Taxiway/Apron	Class A Runway, Class B Runway	728	36
Airfield Operations & Maintenance	Hangars, Passenger Terminal	34	2
Industrial	Warehousing, vehicle storage, maintenance	217	11
Administrative	Headquarters, offices	75	4
Community Commercial	Commissary, BX, Gas Station	73	4
Community Service	Chapel, Library, Post Office	12	1<
Medical	Hospital, Dental Clinic, Pharmacy	22	1
Accompanied Housing	North Housing, Central Housing	153**	7**
Unaccompanied Housing	Airman's Dormitories, Visiting Airman's Quarters	23	1
Outdoor Recreation	Golf Course, Marina	252	13
Open Space	Community parks, large grass areas	329	16
Water	Retention ponds, canals	82	4
Launch & Range Control	Radar, communication equipment	2	.1<
<b>Total:</b>		<b>2,002*</b>	<b>100*</b>

Notes:

\*Total does not equal sum of individual land uses due to rounding.

\*\*Does not include South Housing.

### 3.8.2.1 Airfield

The Airfield is the most dominant land use of PAFB, and comprises a total of 728 acres. To maintain the safe operation of the airfield, Clear Zones, clearance areas and setbacks (certain areas of land beyond the paved sections of the airfield) must remain free of obstructions. See Map 3-2 for an illustration of airfield obstructions.

On PAFB, the northern Clear Zone contains Unaccompanied Housing, which, as shown in Map 3-9, creates an incompatible functional relationship with the airfield. This Clear Zone also contains Administrative, Community Commercial and Outdoor Recreation facilities, which should be separated from airfields whenever possible. Industrial facilities, also within the PAFB Clear Zone, are normally situated close to the airfield, but should not be located within the Clear Zone.

The Golf Course and the Marina also encroach upon the southern Airfield Clear Zone. While these facilities are normally separate from the airfield, there is a lack of property



available on the PAFB to relocate these facilities. Exceptions should continue to be sought to retain the Golf Course and Marina in the southern Clear Zone as long as they do not interfere with flight safety. Map 3-10 show the future On-Base Land Use Plan.

### **3.8.2.2 Airfield Operations**

As noted above, land use associated with the Airfield is the largest land use function on the installation. The “Airfield” land use category includes Primary Airfield surface, and associated Runways, taxiways, and Aprons. The “Airfield Operations” designation represents lands used in support of, or related to, flight activities. For example, the Passenger Terminal building, hangars and aircraft maintenance facilities are considered Airfield Operations land uses.

### **3.8.2.3 Administrative**

The principal administrative area on PAFB occupies land within the Main Base Area, adjacent to the Main Gate. This area houses the Wing Headquarters, Group Headquarters, and Security Forces (SF). A boat dock for SF is being proposed outside of the administration area next to the Outdoor Recreation boat dock for obvious land use reasons.

Adjacent to the main base Administrative area, on land currently designated as Airfield, are several additional office facilities. These buildings, located south of Jupiter Drive, are considered airfield obstructions and therefore planned for eventual demolition.

Another major area of Administrative land use is located east of South Patrick Drive, adjacent to the central gate (now closed). This area houses the AFTAC administrative functions. Relocation of the Central Gate is being proposed just north of the AFTAC facility.

### **3.8.2.4 Community Commercial**

PAFB offers a wide range of commercial facilities, including a Base Exchange, Commissary, Burger King, BX, Gas Station and Satellite Pharmacy. All of these functions are located near the southern end of the base, east of South Patrick Drive. Other Community Commercial facilities include the Satellite Base Exchange (Shoppette), Dining Hall, and associated warehouse facilities, which are located, near the Main Base Area. The PAFB Officers’ Club and Enlisted Club are located outside the installation proper, east of SH A1A, along the coastline.



### **3.8.2.5 Community Service**

Some of the Community Service land uses on base include a Chapel, Library, Post Office, and Environmental Health Offices. These functions are all situated in the main base area. Also located in the Main Base Area are the Gymnasium and Racquetball Courts, which occupy land that is within the northern Clear Zone.

### **3.8.2.6 Medical**

Facilities which house the Medical functions for PAFB include the Medical Clinic, Dental Clinic, and Medical Compound/ Administration buildings, all located at the southern end of the installation, east of South Patrick Drive and the South Gate. The locations of the existing medical facilities are compatible with the adjacent Commissary & Base Exchange commercial activities, and with the adjacent open space to the east.

### **3.8.2.7 Industrial**

Industrial facilities located within Patrick Air Force Base are scattered throughout the installation and serve a variety of functions. The largest area of Industrial use occurs along the Banana River, in the northwest portion of the Main Base. Within this area several warehouses, maintenance shops, and storage facilities are situated. These heavy Industrial uses are undesirable in an area with the potential for being the installations commercial and community activity hub.

Other Industrial land uses are located in proximity to Aircraft Operations and Maintenance functions, which, at PAFB, are located at the northeast and northwest ends of the airfield. The River Industrial Area contains numerous Industrial facilities related to the 920th Rescue Wing's airfield operations and CES functions. Additional Industrial areas are located on the east side of the airfield, south of the new PAX Terminal and Base Supply facilities, and include the equipment research/testing/engineering buildings, (981, 986 & 988), and housing maintenance building (985), as well as the Florida Air National Guard (FLANG) area, located behind the Medical/Dental Center in the southeast corner of the base.

Finally, warehouses and various other small industrial buildings sit within an enclosed complex previously occupied by the Defense Reutilization and Marketing Office (DRMO) at the south end of the Base. With the recent relocation of DRMO to CCAFS, space in this





area has become available for uses such as RV and boat storage and warehouse functions needed by the Services Squadron.

### **3.8.2.8 Accompanied Housing**

Accompanied Housing occupies the second largest amount of land on Patrick Air Force Base. This housing is divided into three main land areas:

1. North Family Housing - 250 units
2. Central Housing – 300 units
3. South Housing – 960 units (privatized)

Homes in the North and Central Housing areas were built in 1995 through 1998, while units in the South Housing area (located approximately 1-mile south of PAFB) were constructed in 1959. These three housing areas contain a total of 1510 units, although a majority of the homes in South Housing are vacant due to the privatization effort underway.

### **3.8.2.9 Unaccompanied Housing**

Unaccompanied Housing on PAFB includes Airmen's Dormitories, Visiting Officers Quarters (VOQ), and Visiting Airmen Quarters (VAQ). Dormitories are located primarily in 4 buildings along Spacelift Avenue, with VOQ's and VAQ's scattered throughout the main base area.

### **3.8.2.10 Outdoor Recreation**

Patrick Air Force Base offers a variety of outdoor recreational facilities, the most significant being:

- The Marina, with dry storage in the southwestern portion of the base;
- The Golf Course, also in the southwestern portion of the base;
- The "Chevron Park", located along the Banana River;
- The "FamCamp" area, also located along the Banana River; and
- Several beachfront picnic areas.

Other notable outdoor recreation facilities include a large neighborhood park located in the Central Housing area, and several smaller pocket parks for residents in the North Housing area.



### **3.8.2.11 Launch and Range Control**

This special land use category applies to a plot of two acres along the beach south of the NCO Club. It contains radar, optical and communications equipment used to support launches from CCAFS. Recent site upgrades in this area include installation of rock and concrete “riprap” to control shoreline erosion and expanded and refurbished facilities and equipment. In addition, a required facility expansion (Building 969) southward requires conversion of a portion of the Outdoor Recreation land use area to Launch and Range Control.

### **3.8.2.12 Open Space**

There are currently 329 acres of Open Space land designated on PAFB. Open Space includes areas such as vacant sites between developed areas, undeveloped pieces of land adjacent to the airfield, and river or beachfront property to be preserved in its natural state. Some Open Space lands include areas that would be permanently-dedicated Open Space due to constraints such as airfield clear zones and storm water retention.

### **3.8.2.13 Off-Installation Considerations**

Patrick Air Force Base is located north of the City of Satellite Beach, and south of the City of Cocoa Beach, on a barrier island that is bordered by the Banana River on the west and the Atlantic Ocean on the east. Land uses immediately north and south of the installation are within the unincorporated area of Brevard County. These areas are currently developed primarily as residential uses.

Residential land uses adjacent to the northern base boundary are compatible with the residential uses existing and planned for the north end of PAFB. Residential land uses immediately south of the base (on the opposite side of Pineda Causeway) are compatible with the adjacent installation land uses (Marina and Golf Course). However, a portion of the residential development on “Tortoise Island”, south of PAFB, is located within the Accident Potential Zone I. According to the 2000 Air Installation Compatible Use Zone study, this community is partially located within the Day-Night Average Sound Level ( $L_{dn}$ ) zone of 65-70 decibels. Since the east and west boundaries of PAFB front on shorelines, there are no encroachments of civilian land uses along either of these boundaries.



### **3.9 Socioeconomic Resources**

The economic impact region for PAFB is the geographical area subject area subject to significant installation generated economic impacts, and is encompassed the area within a 50-mile radius of PAFB. This area includes portions of eight different counties: Brevard, Indian River, Okeechobee, Orange, Osceola, Seminole, St. Lucie and Volusia. The region stretches northward to New Smyrna Beach, southward to Fort Pierce, and westward to Orlando

The 45th Space Wing (which includes PAFB and Cape Canaveral AFS) is the number one employer in Brevard County, with an estimated 11,500 employees (including military, civilian, and contract employees). Other major employers are concentrated in four areas:

- Kennedy Space Center (KSC)
- Melbourne
- Palm Bay
- South Titusville region

The presence of the Department of Defense (DoD) and several high tech and aerospace employers provides a predominant economic force in the area, with an economic value of \$1.139 billion impact during FY 2002 (PAFB General Plan 2003). In addition, PAFB supports over 12,650 DoD retirees within Brevard County, who bring in more than \$292 million per year in retirement income. Thus, the 45th Space Wing and its tenant units are a major source of employment and revenue for thousands of Brevard County residents.

### **3.10 Environmental Justice**

Presidential Executive Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, was issued on February 11, 1994. The EO requires federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects of their programs, policies and activities on minority and low-income populations.

A Presidential memorandum that accompanies EO 12898 specified that federal agencies “shall analyze the environmental effects, including human health, economic and social effects, of Federal actions, including effects on minority communities, when such analysis is required by the National Environmental Policy.”



### **3.11 Cultural Resources**

Cultural resources consists of prehistoric and historic districts, sites, structures, artifacts, and any other physical evidence of human activity considered important to a culture or community for scientific, traditional, religious, or other reasons. Cultural resources are divided into three categories: archaeological (prehistoric, protohistoric, and historic), historic resources and structures, and areas of traditional use by Native American Indians or other ethnic groups.

Archaeological resources are defined as physical remnants of human activity that may include archaeological sites, structures, artifacts, and other evidence of human behavior. Prehistoric archaeological resources are those that predate the advent of written records to the local culture or geographic area. Protohistoric archaeological resources are those from the period when literate visitors were writing about local manifestations. Historic archaeological resources are those that date from the time when residents began writing about events and ends 50 years ago. Other historic resources consist of standing buildings and structures as well as locations associated with events that have made a significant contribution to history or that are associated with the lives of historically significant persons.

Areas of traditional use are most commonly associated with Native American Indians, but may be associated with other ethnic groups under appropriate circumstances. Such areas may include traditional territories, locations of important events (including archaeological sites), sacred areas, and traditional sources of specific foods, medicines, and raw materials.

Historical and archaeological resources are protected under the National Historic Preservation Act of 1966 (NHPA), as amended (16 U.S.C. § 470 *et seq.*), the Archaeological Resources Protection Act of 1979 (ARPA) (16 U.S.C § 470 *et seq.*), the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. § 469 *et seq.*) and Executive Order 11593. Section 106 of the NHPA requires that the sponsoring agency official take into account the effect of an undertaking upon historic properties and to afford the Advisory Council on Historic Preservation (ACHP) the opportunity to comment. This process is implemented by 36 CFR 800. Additionally, Section 106 of the NHPA sets forth a series of requirements embedded in the Federal comprehensive planning process. PAFB procedures for compliance with the previously mentioned statutes are contained in the 45th SW Cultural



Resources Management Plan (CRMP), a component document that inventories cultural resources and procedures for managing the historically significant facilities.

Two types of cultural resource research have been performed at PAFB. An archaeological survey was conducted to determine the presence of cultural resource sites pre-dating the existence of the base. This research proved negative. The other research, a Historical American Building Survey, identified numerous structures and three districts on PAFB as potentially eligible for listing in the National Register of Historic Places (NRHP). Because there are known cultural resource sites on PAFB, it is essential that the EA process include a thorough discussion of the effects the proposed projects have on these sites.

PAFB was established in 1940 as the Banana River Naval Air Station, and some World War II-era buildings still exist on the site. All structures built before 1959 (45 years old or older) are potentially eligible for listing in the National Register of Historic Places. Table 3-11 contains a list of historic buildings located on PAFB and their dates of construction.

A National Park Service archaeologist has made a detailed inspection of PAFB, noting the nature, location, and extent of base construction disturbance. Although the archaeologist did not conduct an intensive survey of the area and no fieldwork was involved, his inspection was sufficient to conclude that is highly unlikely that PAFB contains any significant archaeological cultural resources that could be affected by future construction. A letter dated August 25, 1981 from the State Historic Preservation Office (SHPO) to the Commander of PAFB concurred with this finding, and the base was cleared for construction (see Appendix E). However, if any evidence of cultural resources is found during a construction project, work should be stopped in that area immediately and the SHPO should be notified.



**Table 3-11 Historic Buildings at PAFB**

<b>Bldg. Number</b>	<b>Date Of Construction</b>	<b>Bldg. Number</b>	<b>Date Of Construction</b>	<b>Bldg. Number</b>	<b>Date Of Construction</b>
251	1945	561	1945	986	1953
313*	1943	562	1945	988	1955
317*	1943	575*	1945	989	1957
318*	1943	673	1958	992*	1956
330*	1944	688	1956	996*	1954
402	1975	710	1942	1173*	1953
407	1945	722	1943	1315	1970
423	1959	734	1944	1316	1970
425	1957	735	1943	1319	1958
431	1942	738	1944	1322	1941
439	1945	908	1958	1327	1941
530	1942	922	1964	1330	1941
534	1942	926	1968	1350	1951
535	1942	945	1957	1353	1961
536	1942	957	1954	1425	1941
537	1942	958	1945	1432	1941
543	1982	961	1959	1435	1941
545	1943	969	1963	1437	1941
556	1945	970	1963	1440	1941
559*	1944	981	1965		
560	1944	984	1953		

Notes:

\* Indicates building scheduled for demolition during FY 1997-2003



### **3.12 Hazardous Materials and Waste Management**

The *Pollution Prevention Act* (1990) establishes a hierarchy of pollution prevention practices, which include:

- Source reduction as the primary means of reducing pollution;
- Recycling alternatives after all source reduction options have been examined;
- Treatment after recycling and source reduction have been deemed unfeasible; and
- Disposal, as a last resort, after all other options have been exhausted.

The current emphasis on PAFB is to achieve compliance with the pollution regulations through prevention programs. Pollution prevention opportunity assessments are conducted continually to produce projects for pollution prevention. These projects include, but are not limited to, process changes to reduce hazardous material requirements, or equipment purchases to minimize the use of hazardous materials.

A wide variety of hazardous materials ranging from paint, solvents, adhesives, cleaners, metal treatments, and fuels are used on PAFB. The collection, management, transportation, and disposition of hazardous wastes are defined and strictly regulated by the Resource Conservation and Recovery Act (RCRA), as amended, and by applicable federal and state regulations. All hazardous material purchases are required to be authorized. The materials are required to be tracked through the HAZMART Pharmacy. *45 SW Operations Plan (OPLAN) 19-14, Petroleum Products and Hazardous Waste Management Plan*, describes waste management procedures on PAFB.

#### **3.12.1 Storage Tanks**

There are 75 fuel storage tanks on the Installation, 4 underground storage tanks (UST), and 71 aboveground storage tanks (AST). The 4 USTs are double-walled with automatic leak detection. The ASTs include 23 bulk fuel storage tanks, 23 generator fuel storage tanks, and 8 heating fuel storage tanks. See Section 3.7.7 for more information about liquid fuel storage tanks on the installation. A total of 46 USTs have been removed. Most of the remaining are scheduled to be removed as a result of remediation actions and upgrades. See Map 3-1 for the location of storage tanks identified as IRP sites.





### **3.12.1.1 Petroleum Contamination**

In addition to the ongoing Installation Restoration Program (IRP) activities, several sites on base have been identified as petroleum contaminated. Florida law requires that the instance of petroleum contamination be addressed separately from IRPs. Petroleum contaminated sites at PAFB include several USTs which have either been completely remediated or are currently in the process. Other petroleum-contaminated sites are a refueling truck maintenance area, a firefighter training area, and several spill sights. Projects have been programmed to remediate all known petroleum contaminated sites.

### **3.12.2 Hazardous Wastes**

#### **3.12.2.1 Satellite Accumulation Points (SAP)**

There are a number of active Satellite Accumulation Points, or Initial Accumulation Points (IAP), on PAFB which can store up to 55 gallons of hazardous wastes, or one quart of acutely toxic hazardous waste, for an indefinite period and without a permit.

#### **3.12.2.2 90-Day Accumulation Points**

These facilities can store any amount of hazardous wastes up to 90 days at a time without a permit. After that period, the wastes must be removed to a permitted facility either on or off the base.

#### **3.12.2.3 Permitted Storage Facilities**

The U.S. Environmental Protection Agency (USEPA) and the Florida Department of Environmental Protection (FDEP) issue permits for hazardous waste facilities. PAFB has a Permitted hazardous Waste Storage Facility, Facility 947, where hazardous wastes identified in the permit may be stored for up to one year from the date the waste is placed in storage at the facility. It is imperative that new waste streams be identified and forecast as early as possible to ensure compliant management and disposal.

### **3.12.3 Solid Waste**

Between the early 1940s and 1972, six landfills were used on PAFB. These landfills may contain general refuse, waste oils, paint cans, paint slops, spray booth filters, asbestos, polychlorinated biphenyl's (PCB) filters, and pesticide cans. The largest underlies the area of the Base Exchange, Commissary, and the southern portion of the Central Housing Area. They are now all closed and under remedial action as IRP sites. Commercial contractors



now remove all waste materials to the Brevard County Landfill. The Environmental Flight (45th CES/CEV) manages the recycling contract for PAFB and CCAFS. The recycling contractor operates a consolidated material recycling facility as well as collecting and selling the recyclables. All recycling proceeds are currently used to help fund the recycling program.

#### **3.12.4 Installation Restoration Program**

There are thirty Installation Restoration Program (IRP) sites on PAFB. Twenty-eight are either proposed for closure (pending regulatory agency concurrence), or under long-term monitoring land use controls. The generalized location of IRP sites is depicted on Map 3-1, *Composite Constraints*. The two remaining sites are under further investigation and appropriate action(s) are being taken. Proposed construction activities at IRP sites must be evaluated on a case-by-case basis.

#### **3.13 Safety and Occupational Health**

Health and safety includes consideration of any activities, occurrences, or operations that have the potential to affect one or more of the following:

- The well-being, safety or health of workers – Workers are considered to be persons directly involved with the operation producing the effect or who are physically present at the operational site.
- The well being, safety, or health of members of the public-members of the public are considered to be persons not physically present at the location of the operation, including workers at nearby locations who are not involved in the operation and the off-installation population.

The standards applicable to the evaluation of health and safety effects differ for workers and the public; thus, it is useful to consider each separately.

The OSHA is responsible for protecting worker health and safety in non-military workplaces. The OSHA regulations are found in 29 CFR. For Air Force operations, AFI 91-301 and AFI 91-202 contain the Air Force's Safety program, and provide the basis for worker safety programs. Specific PAFB programs which affect construction and demolition operations



include the Asbestos and Lead-based Paint Plans. Map 3-11 shows the Facility Demolition Plan.

Asbestos used in construction and insulation, when damaged, may release fibers that pose a health hazard. PAFB manages asbestos-containing materials generated by installation activities through an Asbestos Management Plan and Asbestos Operations Plan. The 45th Space Wing has an intense asbestos program where if possible, asbestos is handled “in place” and systematically eliminated from facilities, as renovations are complete. A complete inventory detailing the location of asbestos in wing facilities is maintained by 45th CEVC, and personnel are trained in procedures to prevent damage to asbestos and to properly deal with asbestos in both planned and unplanned circumstances.

Lead-based paint was commonly used in and on building and other structures until 1978. Lead-based paint in good condition doesn't pose a health hazard. When lead-based paint is in a deteriorated (cracking, peeling, chipping) condition, or damaged by renovation or maintenance activities, it can release lead-containing particles that pose a threat of lead contamination to the environment and a health hazard to workers and building occupants. Emphasis is placed on personnel awareness and training in procedures to prevent damage to lead-based and to properly deal with it in both planned and unplanned circumstances.













PATRICK AFB GENERAL PLAN EA

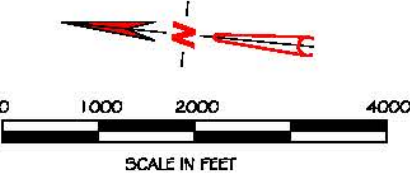


LEGEND

Obstructions to Airfield Criteria

Obstruction #	Description
1	State Road AIA Centerline
2	South Park Drive Centerline
3	Building 200
4	Building 200C Electric Emergency Power Plant
5	Chain Link Fence
6	<del>Building 200C Hangar (Demolished)</del>
7	Corn Operated Car Wash & Driveway
8	Traffic Lights
9	Parking Lot, Fence & Light Pole
10	<del>SAV 9 Arresting Barrier Housing (Demolished)</del>
11	Aero Club Fuel Pump
12	Light Poles and Trim Pad
13	Lighting (North Parking Apron)
14	Parking Lot & Fence (North of Building 200)
15	<del>Perimeter Road (Enclosed)</del>
16	Canons Pad
17a-b	Small Munitions Storage and Oil/Grease Storage
18	Building 739
19	Drainage Ditches
20	Engine Test Cell Shelter
21	Lighting Road on Rapcon
22	Access Roads
23	Access Roads to TACAN
24	Delisted
25	Microwave Tower (Building 539)
26	<del>Traffic Lights 266 Runway (Enclosed)</del>
27a-b	Hose Stand Pipes, Perimeter Fence
28	Traffic Gate House
29	Re-Route Rescue Road (F Street)
30a-b	Perimeter Security Fences
31	Extension of Finger Docks
32a-b	Apron Lights
33a-b	Electrical Enclosures
34	Facility 1322
35a-f	Building 1432, Fence, Utility Poles
36	Utility Pole (Building 1457)
37a-b	Hot Cargo Team
38a-b	Tree Canopies
39	Rain Gauge
40a-b	Electrical Enclosures
41	Calometer
42	Borehole Tower

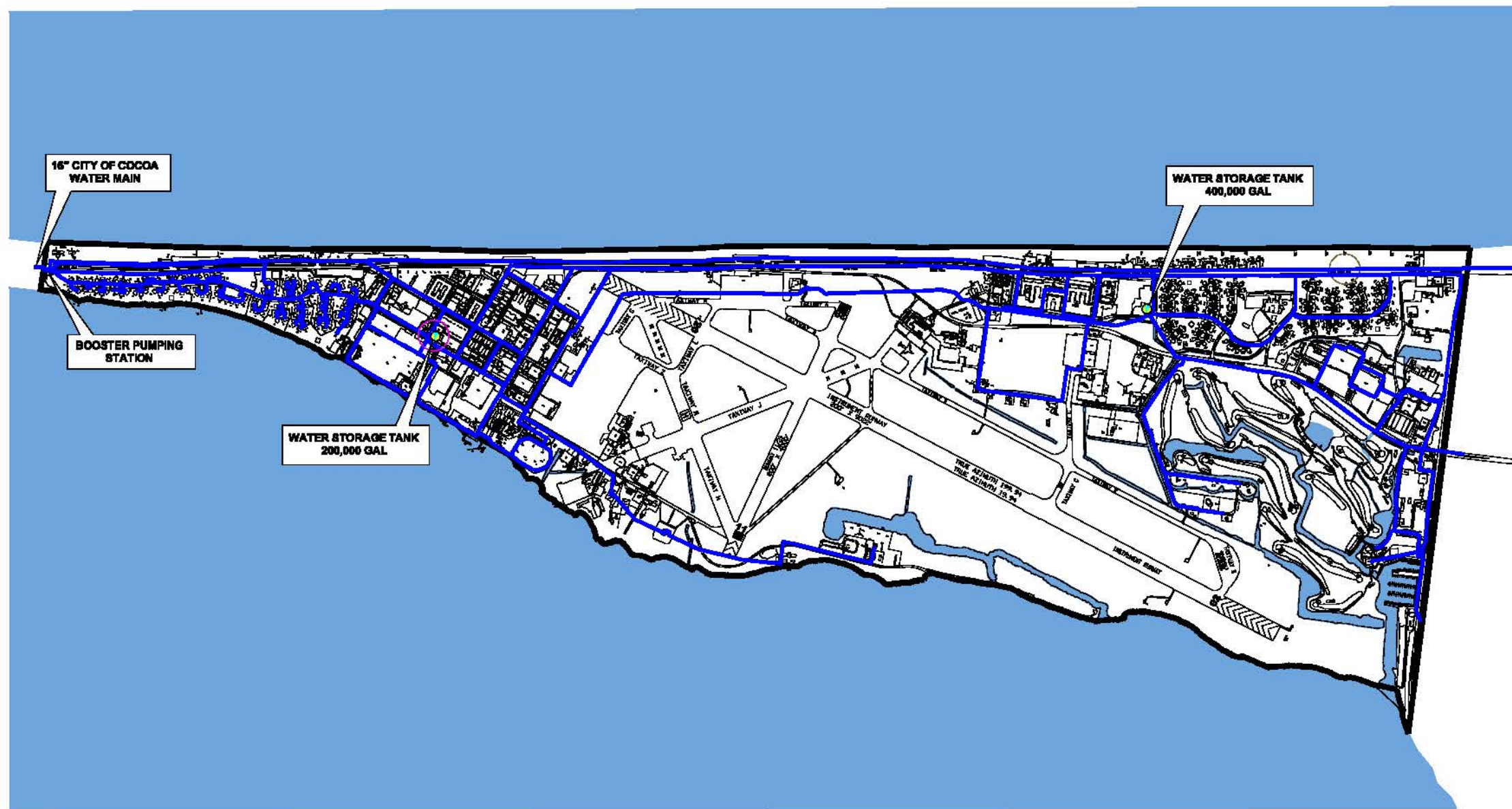
Map 3-2  
AIRFIELD  
OBSTRUCTIONS







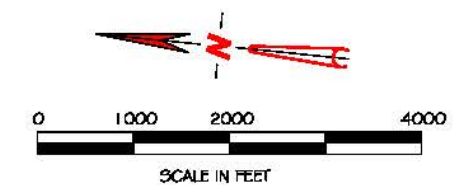
## PATRICK AFB GENERAL PLAN EA



### LEGEND

— Primary Water Main

**Map 3-3**  
**PRIMARY WATER**  
**SYSTEM**

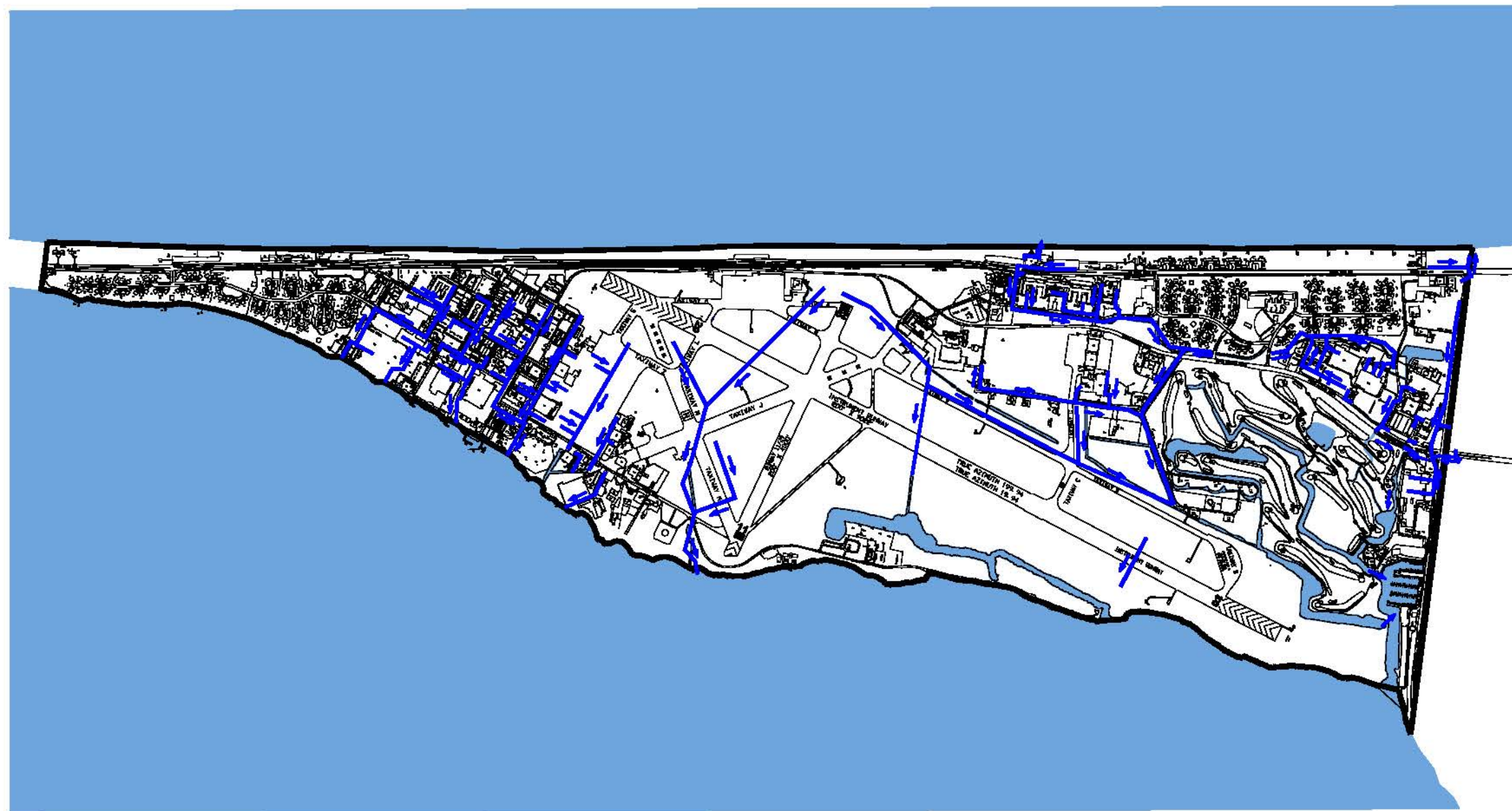








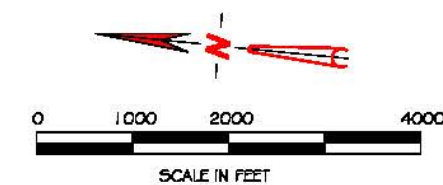
# PATRICK AFB GENERAL PLAN EA



## LEGEND

- Storm Drainage
- Flow Direction

**Map 3-5**  
PRIMARY STORM WATER  
DRAINAGE SYSTEM







## PATRICK AFB GENERAL PLAN EA

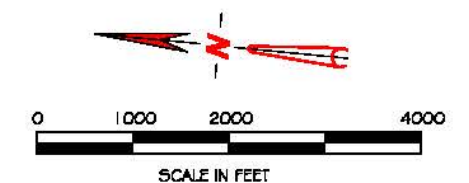


### LEGEND

-  Primary Above Ground Electric Main
-  Primary Below Ground Electric Main

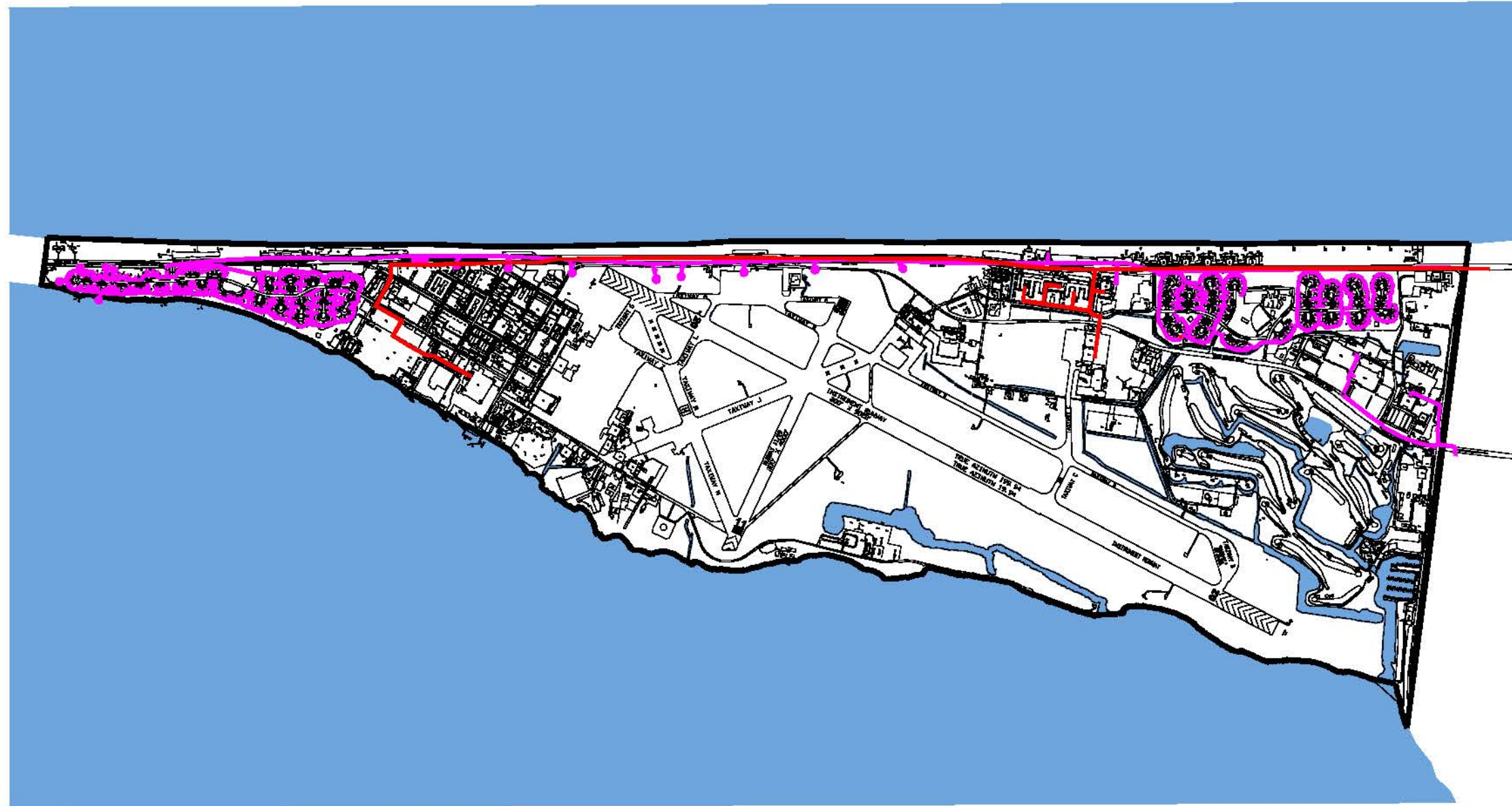
Note:  
Transmission voltage of 138KV is converted  
to a distribution voltage of 13.2KV at the  
Florida Power and Light Substations.

### Map 3-6 PRIMARY ELECTRIC SYSTEM





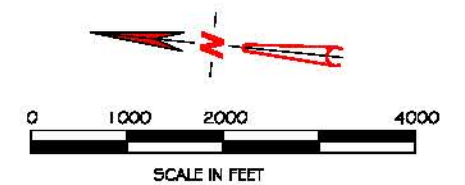
## PATRICK AFB GENERAL PLAN EA



### LEGEND

- Primary Natural Gas Main (City Gas)
- Primary Natural Gas Main (Patrick AFB Gas)

**Map 3-7**  
**PRIMARY NATURAL**  
**GAS SYSTEM**







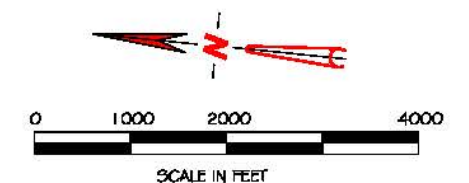
# PATRICK AFB GENERAL PLAN EA



## LEGEND

Map #	Tank #	Location	Cap (g)	Use
1	331	FOU#2	1,000	DL-2
2	611	FOU#2	25,000	DL-2
2	612	FOU#2	25,000	DL-2
2	613	FOU#2	25,000	DL-2
2	614	FOU#2	25,000	DL-2
2	615	FOU#2	25,000	DL-2
2	616	FOU#2	25,000	JF-B
2	617	FOU#2	25,000	DL-2
2	618	FOU#2	25,000	JF-B
2	619	FOU#2	25,000	MoGas
2	620	FOU#2	25,000	JF-B
2	621	FOU#2	25,000	MoGas
2	622	FOU#2	25,000	JF-B
3	626	FOU#2	16,000	JF-B
3	633	FOU#2	16,000	JF-B
3	634	FOU#2	30,000	JF-B
4	662	FOU#1	100,000	JF-B
4	663	FOU#1	100,000	JF-B
4	664	FOU#1	100,000	JF-B
4	665	FOU#1	100,000	JF-B
4	666	FOU#1	100,000	JF-B
4	667	FOU#1	100,000	JF-B
5	676	Refuel Trk Mt	6,000	Waste Oil
6	751-1	Aero Club	5,000	Avgas
6	751-2	Aero Club	5,000	Avgas
7	988-3	APTAC	6,000	DL-2
8	1317	Control Tower	1,500	DL-2
9	1374-1	FTL Tower	2,500	DL-2
9	1374-2	FTL Tower	2,500	DL-2
9	1374-3	FTL Tower	2,500	DL-2
9	1374-4	FTL Tower	2,500	DL-2
10	1380-1	Hose Gen	12,000	DL-2
11	1493	Yacht	4,000	MoGas
12	313-2	Motor Pool	500	Used Oil
12	313-1	Hangar	120	Mobils
13	349	Outdoor Kuc	500	Issues
14	736-6	AAFTS	500	Used Oil
15	423-2	Weather Station	500	Used Oil
16	42543	SPTG HQ-Indoor Tank	275	GEN
17	533	Communications-Indoor	500	GEN
18	535	DCC-Indoor Tank	125	GEN
19	575	Security Police HQ	250	GEN
20	623-1	Portable Tank(2)	100	Waste Fuel
20	623	Liquid Fuels	250	Used Fuel
21	623-1	Special Operations	500	Heat
21	623	Special Operations	500	Heat
22	632	Engine Shop	500	Heat
23	650	BTP North	750	GEN
24	661	Portable Tank	250	Waste Fuel
25	670-3	Oil Recycling	500	Used Oil
26	687-1	Fire Training A	1,000	Fire Fit
26	687-2	Fire Training A	1,000	Fire Fit
27	691-4	AGE	250	Heat
28	703	MOB Radar	250	?
29	806	Airfield Lighting Gen	500	GEN
30	810-1	Fire Station	550	GEN
30	810-2	Fire Station	1,000	Fire Foam
31	957	Comm. Transmitter	550	GEN
32	996	Hospital Supply	50	GEN
33	1363	Commissary	100	GEN
34	1430	ILS Generator	250	GEN
35	1473-3	Golf Course	500	Issue
35	1475-4	Golf Course	500	Issue
36	1497	BTP South-Indoor Tank	750	GEN
37	1524	TACAN	250	GEN
38	1316-1	Weather Station	500	GEN
38	1316-2	Weather Station	1,000	Heat
39	1360-1	Class 5x	12,000	Premium
39	1360-2	Class 5x	12,000	Mid-Grade
39	1360-3	Class 5x	12,000	Regular Unleaded
39	1360-4	Class 5x	12,000	Regular Unleaded

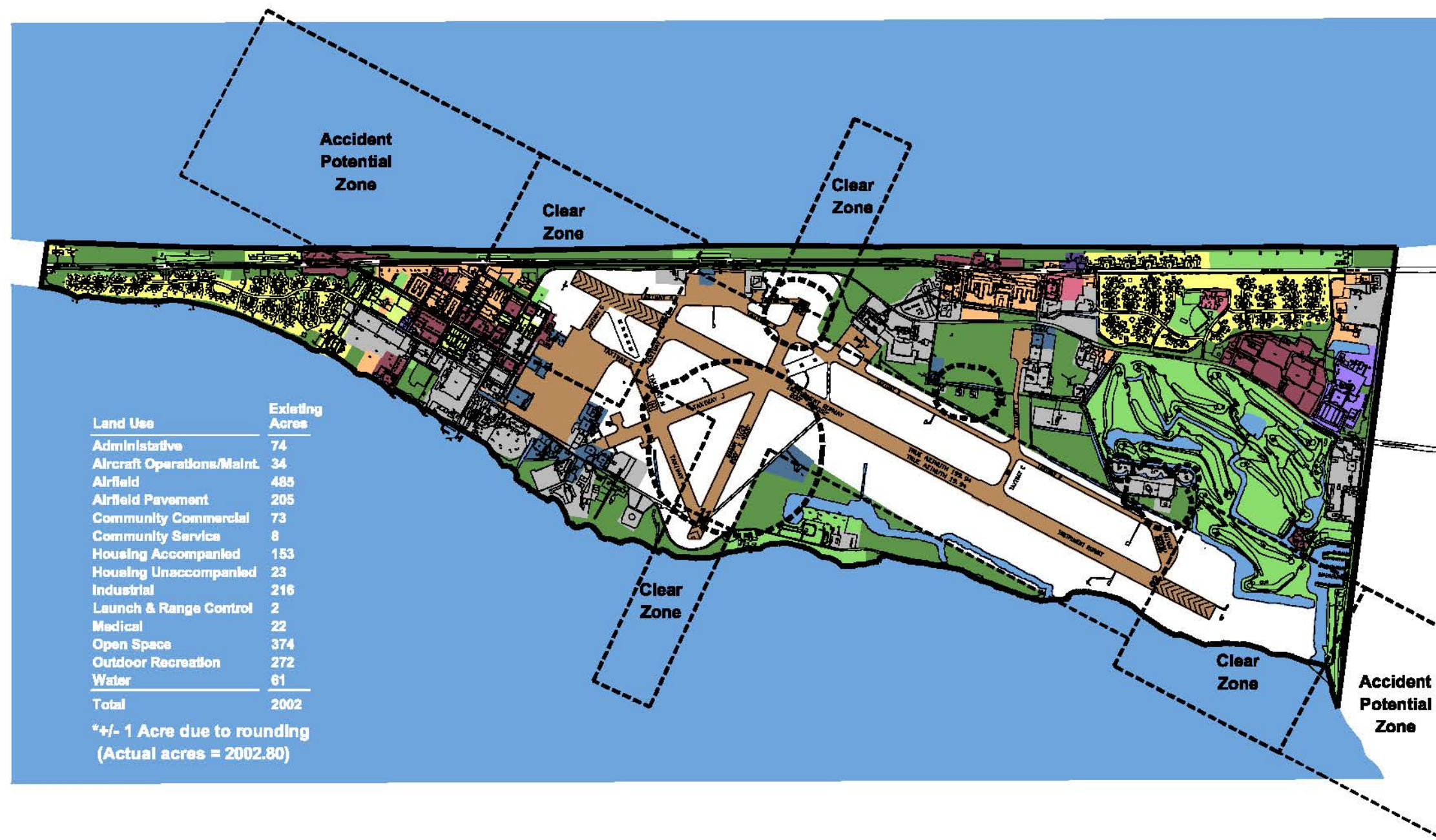
Map 3-8  
LIQUID FUELS  
DISTRIBUTION SYSTEM







## PATRICK AFB GENERAL PLAN EA



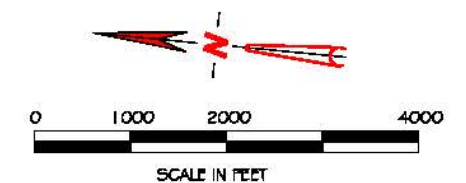
Land Use	Existing Acres
Administrative	74
Aircraft Operations/Maint.	34
Airfield	485
Airfield Pavement	205
Community Commercial	73
Community Service	8
Housing Accompanied	153
Housing Unaccompanied	23
Industrial	216
Launch & Range Control	2
Medical	22
Open Space	374
Outdoor Recreation	272
Water	61
<b>Total</b>	<b>2002</b>

\*+/- 1 Acre due to rounding  
(Actual acres = 2002.80)

### LEGEND

- Installation Boundary
- Airfield
- Runway/Taxiway/Apron
- Aircraft Operations & Maint.
- Industrial
- Administrative
- Community Commercial
- Community Service
- Medical
- Accompanied Housing
- Unaccompanied Housing
- Outdoor Recreation
- Open Space
- Water
- Launch & Range Control
- QD Boundary
- Airfield Surfaces

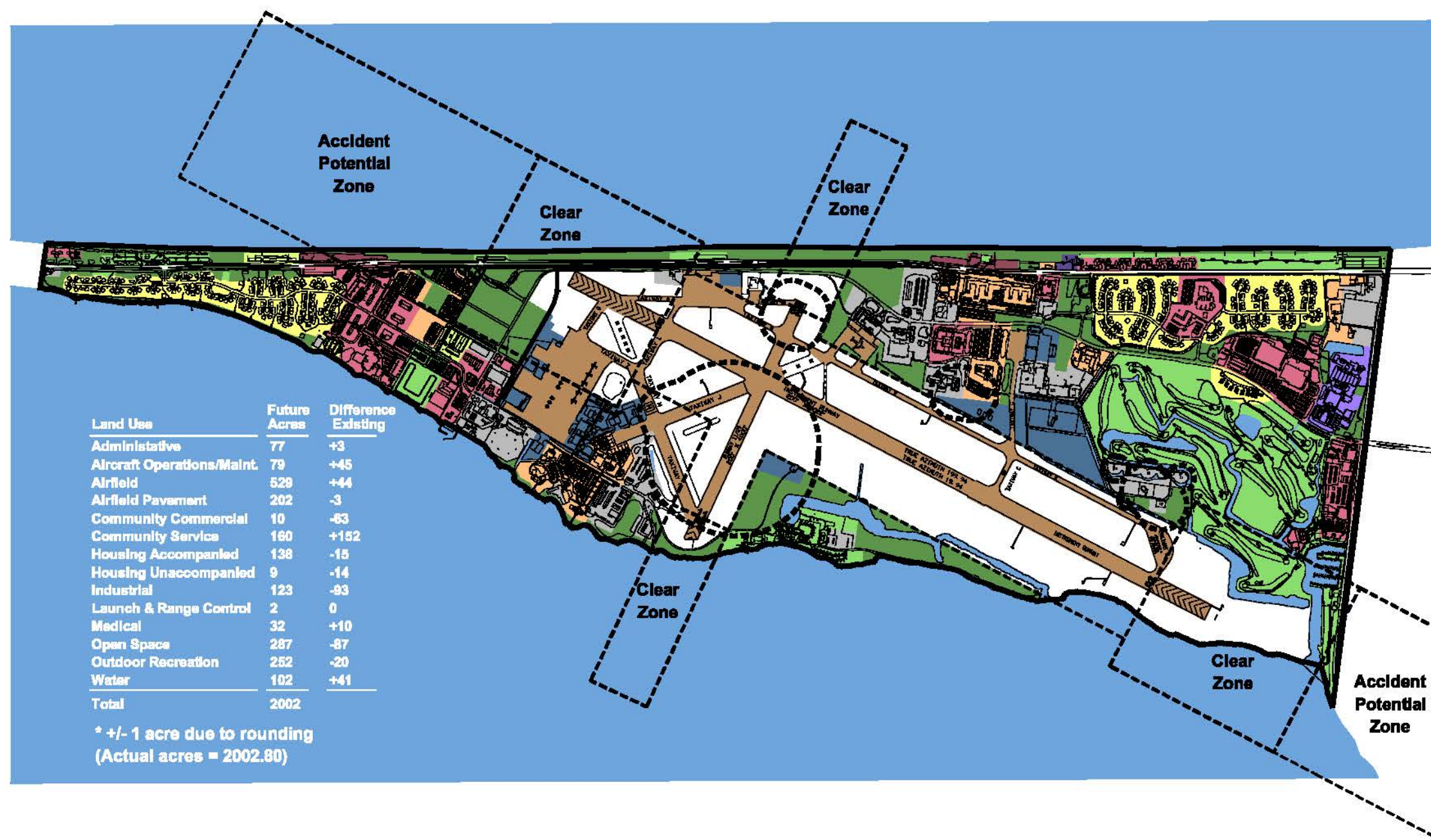
**Map 3-9**  
**EXISTING ON-BASE**  
**LAND USE PLAN**







## PATRICK AFB GENERAL PLAN EA

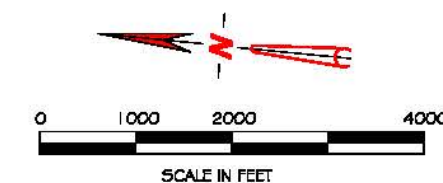


### LEGEND

- Installation Boundary
- Airfield
- Runway/Taxiway/Apron
- Aircraft Operations & Maint.
- Industrial
- Administrative
- Community Commercial
- Community Service
- Medical
- Accompanied Housing
- Unaccompanied Housing
- Outdoor Recreation
- Open Space
- Water
- Launch & Range Control
- QD Boundary
- Airfield Surfaces

### Map 3-10

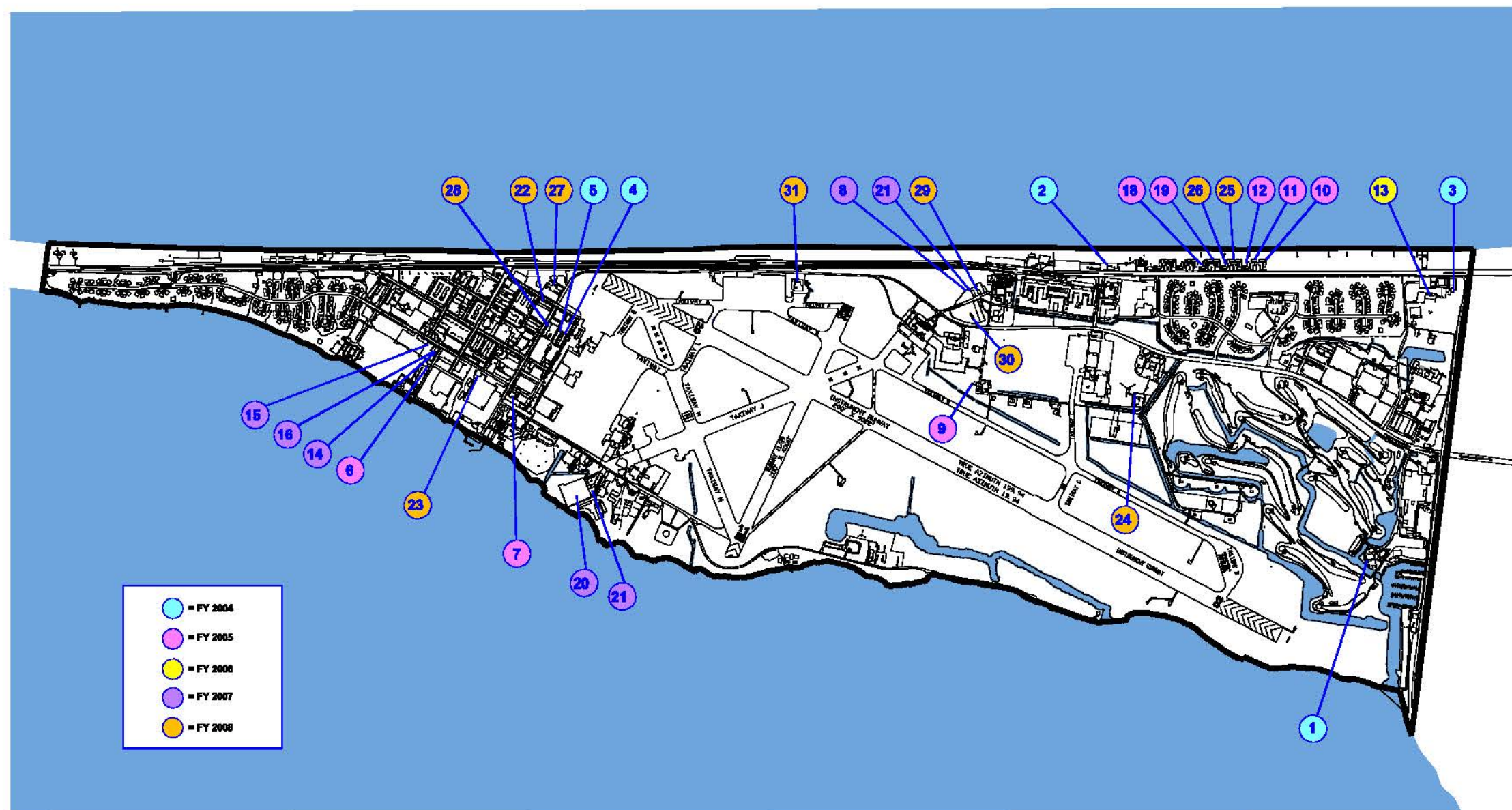
FUTURE ON-BASE  
LAND USE PLAN







# PATRICK AFB GENERAL PLAN EA

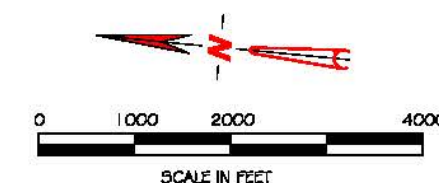


## LEGEND

Map #	FY	Project Title	Cost (\$)
1	04	Demo Golf Clubhouse	110,000
2	04	IDIQ-Demo Ut Vault, Bldg 916	5,700
3	04	IDIQ-Demo San Lat Bldg 973	2,700
4	04	IDIQ-Demo Bldg 738	172,000
5	04	IDIQ-Demo Bldg 784	172,000
6	05	IDIQ-Demo Bldg 867	10,000
7	05	IDIQ-Demo Bldg 700	100,000
8	05	IDIQ-Demo Bldg 978	6,900
9	06	IDIQ-Demo Weather Tower 1319	4,500
10	05	Demolish TLF 5413 & Sidewalk	92,600
11	05	Demolish TLF 5405 & Sidewalk	46,300
12	05	Demolish TLF 5401, SW, Parking	85,800
13	06	IDIQ-Demo Bldg 990	300,000
14	07	IDIQ-Demo Bldg 335	89,600
15	07	IDIQ-Demo Govt Carwash 336	50,000
16	07	IDIQ-Demo Storage Shed 337	8,500
17	07	IDIQ-Demo Bldg 960	36,000
18	07	Demolish TLF 5201 & Sidewalk	55,200
19	07	Demolish TLF 5205 & SW & Park	129,200
20	07	920 RQW MILCON, Bldg 675	-
21	07	920 RQW MILCON, Bldg 676	-
22	06	IDIQ-Demo Bldg 559	185,000
23	06	IDIQ-Demo Fac 322	20,000
24	06	IDIQ-Demo Fac 1548	10,000
25	06	Demolish TLF 5305 & Sidewalk	129,200
26	06	Demolish TLF 5301 & SW & Park	85,800
27	06	MILCON Demo Bldg 575	240,000
28	06	MILCON Demo VOO Bldg 727	250,000
29	06	MILCON Demo Bldg 912	20,000
30	06	MILCON Demo Bldg 952	4,000
31	06	MILCON Demo Bldg 610	150,000

\* This demolition list may become outdated shortly after printing of this document.

### Map 3-11 FACILITY DEMOLITION PLAN





## **4.0 ENVIRONMENTAL CONSEQUENCES**

### **4.1 Introduction**

This section of the General Plan EA describes the potential environmental consequences of implementation of the PAFB General Plan with required base maintenance in support of the General Plan as well as the 45 SW mission by analyzing proposed project activities and the potentially affected environmental components. Sections 4.1 through 4.13 provide discussions of potential environmental consequences using a programmatic approach that treats the base as one site with the same potential impacts. Refer to Section 5.0, Cumulative Impacts, for the discussion of the proposed actions' incremental impacts as a whole. Appendix C is the representative project-specific impact analysis, Environmental Assessment, for the Fire/Crash Rescue Station. Refer to Appendix D for regulatory/permitting environmental requirements with implementation of the Proposed Action.

Federal environmental laws and regulations were reviewed to assist in determining established threshold for assessing environmental impacts (If any) in fulfillment of NEPA requirements. Proposed Actions were evaluated to determine their potential to result in significant environmental consequences using an approach based on the interpretation of significance outlined in the CEQ regulations for implementing the procedural provisions of the NEPA (40 CFR 1500-1508).

Guidelines established by the CEQ (40 CFR 1508.27) specify that significance should be determined in relationship to both context and intensity (severity). The assessment of potential impacts and the determination of their significance are based on the criteria in 40 CFR 1508.27.

Based on these criteria, three levels of impact can be identified:

1. No Impact – No impact implied.
2. No significant Impact – An impact is predicted, but the impact does not meet the intensity/context significance criteria for the specific resources.
3. Significant Impact – An impact is predicted that meets the intensity/context significance criteria for the specific resource.



## **4.2 Air Quality**

### **4.2.1 Proposed Action**

Impacts to air quality would be considered significant if the Proposed Actions resulted in violation of a National Ambient Air Quality Standard (NAAQS), contributed to an existing or projected air quality violation, exposed sensitive receptors to substantial pollutant levels, exceeded de minimis emissions in nonattainment or maintenance areas, or exceeded any significance criteria established by a state implementation plan.

Short-term air quality impacts could occur during construction operations associated with the Proposed Action at PAFB and during the operation of equipment in support of the new areas. The potential impacts are not expected to be significant. It is anticipated that the construction activities and any installed air emitting equipment would not cause or contribute to a violation of the Federal NAAQS or the state AAQS.

PAFB must maintain compliance with the conditions specified in Permit No. 0090021-003-AV as part of the Proposed Action. PAFB would assure that the addition or modification of new equipment would not cause or contribute to a violation of the NAAQS or AAQS. Impacts from the new equipment should not be significant if the proper permitting procedures are followed and equipment is operated using good engineering practice.

Anticipated short term emissions during construction include dust and particulates (PM-10) from land clearing and site preparation activities, exhaust products (NO<sub>x</sub>, SO<sub>2</sub>, CO, PM-10 and volatile organic compounds [VOCs] from heavy equipment and VOC emissions from application and use of paints, adhesives and solvents. Dust and particulates would also be produced from demolition of the old fire station after activation of the new facility. Although it is possible that particulate emissions from construction/demolition activities would exceed the 150 ug/m<sup>3</sup> PM-10 Federal and state standard within the immediate construction area, exceedances of PM-10 at off-site receptors would not occur. PM-10 refers to respirable particles of 10 microns or less, in diameter. Implementation of a twice-daily watering of exposed soil and use of dust masks by personnel would effectively mitigate the effects of particulate emissions at the construction site. All fugitive emissions from construction activities would be short term (less than-1 year) and would not degrade local or regional air quality. It is expected that fugitive dust from ground-disturbing activities can be reduced by application of Best Available Control Technologies (BACT) such as application of water



sprays, dust suppressants, use of coverings or enclosures, paving, enshrouding, planting, and reduction of vehicle speeds on unpaved roads.

Potential emissions generated from the addition of any new stationary sources from the Proposed Actions, which could reasonably emit air pollutants, would need to be identified and quantified. The need for a permit or permit exemption would need to be evaluated prior to the construction of any new or modified air polluting equipment. Individual projects would require an analysis of permitting requirements by following the 45th SW procedure for EIAP before the project may proceed.

Demolition of the existing buildings could disturb asbestos containing materials (ACM). Any ACM will be identified and removed prior to building demolition. ACM is regulated under the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, Subpart M, and is referred to as regulated asbestos containing material (RACM). FDEP Form 17-257.900, Notice of Asbestos Removal Project, will be forwarded to FDEP at least ten days prior to RACM removal. The RACM will be transported to an FDEP permitted asbestos disposal facility.

In conclusion, the anticipated emissions from construction and operation of potential new emission sources would not violate the NAAQS, the Florida ambient air quality standards or Florida Department of Environmental Regulation (FDEP) air toxics regulations and would not measurably degrade local air quality as long as projects are reviewed by the Environmental Planning Function (EPF) and manufactures operation and maintenance guidelines are followed.

#### **4.2.1.1 Clean Air Act Conformity**

Since PAFB is located in an area in attainment for NAAQS, the general conformity rules, included in 40 Code of Federal Regulation (CFR) Parts 6.51 and 93, do not apply. Therefore, a conformity determination is not required.

#### **4.2.1.2 Stratospheric Ozone**

No Class I ozone depleting substances (ODSs) will be used under the Proposed Actions. The only Class II ODSs to be used are associated with the air conditioning systems. Potential for release of Class II ODSs to the atmosphere would exist in the event of an



accidental release during maintenance activities, or a system failure resulting in a leak. Therefore, the Proposed Action is not expected to adversely affect stratospheric ozone.

#### **4.2.2 No-Action Alternative**

Under the No Action Alternative, the Proposed Action would not occur. Air Quality impacts would remain the same as historical data since no change in activities would occur.

### **4.3 Water Resources**

#### **4.3.1 Proposed Action**

Negative impacts will result with water consumption increases due to increasing facility numbers, potential increases in numbers of users, and potential increases in irrigation requirements. Former impervious areas that will be converted to natural vegetation with demolition projects will have positive water resource impacts with the ability to recharge the groundwater system by capturing precipitation as well as reducing storm water runoff.

A water conservation plan is being prepared for PAFB, which encourages efficient use of water. This will be important, since the potential for the increase in pervious surface areas may require irrigation to support landscaping plans.

All projects, including simple repaving actions, which are not exempt or fall below permitting thresholds will follow the Environmental Resource Permit process for assurance of proper adherence to regulatory requirements with permit issuance through the SJRWMD, FDEP, and the U.S. ACOE.

Construction contractors would be required to obtain National Pollution Discharge Elimination System (NPDES) Storm Water Discharge Permits. The contractors would be required to comply with the NPDES permit requirements, as well as, all applicable Federal, state and local laws and regulations during the construction period. Additionally, best construction management practices and adherence to the requirements in permits and in the construction design specifications would ensure impacts to water resources are minimized to the maximum extent possible. Refer to Section 4.7, Infrastructure and Transportation, addressing impacts to groundwater due to continued PAFB development. Refer to Section 5.0 addressing cumulative impacts of increased water demand.





Executive Orders 11990 and 11988 require that wetlands and floodplains are avoided unless there are no practicable alternatives. Any proposed project or activity in or adjacent to wetlands or floodplains will be evaluated separately, a Finding of No Practicable Alternative will be addressed and mitigation requirements will be met, if applicable. Should construction become necessary within the 100-year floodplain, care must be taken to ensure that project design and construction incorporates flood-proofing measures and that the finished floor elevation is above the flood level.

#### **4.3.2 No Action Alternative**

If the No Action Alternative is chosen, existing facilities would be maintained and new facilities would not be constructed in support of changing operational requirements. There would be no changes to water resources because there would be no change to the general types of ongoing activities at PAFB. Storm water drainage could potentially become a problem due to inadequate stormwater treatment design and planning.

### **4.4 Geology and Soils**

#### **4.4.1 Proposed Action**

There would be no significant impacts to geology and soils from the implementation of the Proposed Action. The Proposed Action is to maintain infrastructure and grounds, and demolish and construct facilities on PAFB in support of current and future installation requirements. By utilizing storm water best management practices during new construction, potential negative impacts on the geology and soils (e.g. sheet flow and gully erosion) would be avoided. By controlling these factors, siltation and turbidity of the canals and waterways would be minimized.

#### **4.4.2 No Action Alternative**

Under the No Action Alternative, existing facilities would be maintained and new facilities would not be constructed in support of changing operational requirements. There would be no significant impacts to geology and soils because there would be no change to general types of ongoing activities in the area.



## **4.5 Noise**

### **4.5.1 Proposed Action**

There would be no significant noise impacts expected from the implementation of the Proposed Action. Normal noise producing activities on the base would continue but would not be affected by the construction of new facilities, however, short-term increases of noise levels around demolition and construction sites would be reasonably expected to occur. Construction noise has not historically been a significant issue with construction projects in the past as demonstrated in previous EAs prepared for projects at PAFB and retained in the offices of the 45CES/CEV.

PAFB would follow the AICUZ Plan and update it as necessary with any change in aircraft types assigned to PAFB or significant mission changes that increase flight activities and/or associated aircraft support activities.

### **4.5.2 No Action Alternative**

The No Action Alternative would result in no significant impacts to noise. Noise levels would continue to remain unchanged.

## **4.6 Ecological Resources**

### **4.6.1 Proposed Action**

Compatible land use elements of the proposed action would improve the sustainability of diverse and productive plant and animal communities reflective of a naturally balanced ecosystem. Though there are no rare or endangered plant species on PAFB, native plant communities as well as non-game species would be encouraged. Increasing the open areas in the Clear Zones will provide more natural habitat, which would improve sustainability of the diverse varieties of plant and animal species on PAFB. The restriction of activities on the shoreline of the ocean would help protect the threatened and endangered sea turtle species that use the beach for nesting. Additionally, the PAFB 45th SW Instruction 32-7001, *Exterior Lighting Management* (1 April 2003) would continue to afford additional protection for the sea turtle through proper management of existing and all new base lighting.

Protection for the manatee and other listed and protected species would continue through proper consultation with the U.S. Fish and Wildlife Service (FWS), National Marine Fisheries





Service (NMFS), and any state agencies. Furthermore, PAFB would follow procedures set forth in the INRMP for management of the base's ecological resources. Proper protective measures would be implemented for migratory birds due to grounds maintenance and landscaping activities.

Natural wetland systems would be protected as much as practical with no net loss of area within PAFB and along the Banana River shoreline to enhance shoreline stabilization, water quality, etc., resulting in a positive impact for the natural ecosystem at PAFB. Executive Orders 11990 and 11988 require that wetlands and floodplains are avoided unless there are no practicable alternatives. Any proposed project or activity in or adjacent to floodplains or wetlands will be evaluated separately and a Finding of No Practicable Alternative will be addressed, if applicable.

All maintenance clearing of canals/ditches are exempt from permitting under Florida Administrative Code 40C-4.051, however, if the system has completely failed in its function, then the exemption no longer applies and permitting will be required. The Army Corp of Engineers (COE), on the other hand, has noted that all canals/ditches that feed into the Banana River are jurisdictional according to Sect 404 of the Clean Water Act. Likewise, these navigable ditches are also jurisdictional as "waters of the U.S." under Section 10 of the Rivers and Harbors Act. Maintenance of any ditches must be permitted and mitigation may be required if habitat loss is perceived by COE (essential fish habitat, etc). Only maintenance dredging to solely unconnected upland cut ditches are free from any permitting or notification. All permitting requirements will be met on a case-by-case basis. Ditch maintenance for Bird/Aircraft Strike Hazard (BASH) issues that may impact potential wetlands will be evaluated separately. The Mangrove Trimming and Preservation Act will be followed when applicable.

Impacts to SAV (seagrass) are not expected because projects that may have the potential to affect seagrass will make all attempts to avoid Essential Fish Habitat impacts under NMFS consultation.

#### **4.6.2 No Action Alternative**

There would be no significant impacts to biological resources. Potential impacts would continue to be addressed through proper consultation and coordination with Federal and state regulatory agencies. Furthermore, PAFB would continue to operate under its INRMP.



## **4.7 Infrastructure**

### **4.7.1 Proposed Action**

- **Drinking Water System**

The supply of domestic water from the City of Cocoa is more than adequate, at present. If more water is needed, arrangements with the City of Cocoa could be effected. If required, the City of Melbourne could also provide water. Therefore, no significant impacts would occur, but increased consumption would be expected.

- **Sanitary Sewer System**

The PAFB sanitary sewer system appears to be adequate, at present. Infrastructure Improvements Plan involves repairs to, and replacement of, certain sewer mains; lift stations and pumps in the lift stations. Therefore, positive impacts would result from repairs and improvements.

- **Storm Drainage System**

Potential damage from storm water is not apparent. However, part of the system was installed in 1949 with extensive construction since then. Therefore, the PAFB General Plan recommends hydrologic study of factors affecting storm water runoff. Plans for the enhancement of the storm drainage system may be necessary to provide and added degree of protection. Therefore, positive potential impacts could result from improvement in the storm drainage system. Wetlands may be impacted with storm drainage redesigns and mitigation may need to be addressed during the permitting process. Overgrowth of vegetation in drainage systems can impede normal flow of storm water runoff, which could cause unnecessary flooding. Routine maintenance of canals and drainage ditches to prevent the overgrowth of plants and trees may impact wetlands that may have to be addressed through permitting

- **Electric Systems**

The PAFB electric system appears to be adequate, at present. Infrastructure Improvements Plan involves repairs and maintenance of the electrical system. Therefore, positive impacts would result from repairs and maintenance of the system.



- **Central Heating/Cooling System**

There is significant residual capacity of the Central Heating Plant because it operates only about three months of the year. The three boilers are approximately 10 years old and in excellent condition. The PAFB General Plan identifies the piping system, initially installed over 45 years ago, as being in poor condition. Additionally, many components of the system are insulated with asbestos. With base-wide replacement of steam lines, the piping system is expected to be brought up to acceptable condition.

- **Natural Gas System**

The PAFB natural gas system appears to be adequate, at present. Therefore, no significant impacts would occur.

- **Liquid Fuels System**

The liquid fuel system includes all fuel delivery, storage and distribution facilities. All in-use tanks comply with current regulatory requirements. Projects to upgrade piping, remove or replace selected storage tanks, or replace underground storage tanks with aboveground tanks are proposed. Therefore, with these improvements to the system, positive impacts would occur.

- **Communications**

Communications is the backbone of PAFB and its missions with only positive impacts expected from improvements and upgrades. This would allow PAFB to carry out its missions now and in the foreseeable future.

- **Transportation**

The highway system in the vicinity of PAFB is sufficient to meet the demand for current and future traffic and PAFB is expected to experience only limited growth over the next few years. Therefore, maintenance and improvements to existing transportation systems would have positive impacts. Any changes to access points along A1A or the Pineda Causeway or construction activities that may impact traffic flow will be coordinated through FDOT. Any permitting requirements through FDOT will be met, and congestion and debris associated with development of PAFB will be minimized along State Road A1A and the Pineda Causeway, SR 404.



#### **4.7.2 No Action Alternative**

The selection of the No Action Alternative would result in the above improvements not being accomplished and therefore, existing inefficiencies in the current infrastructure would remain.

### **4.8 Land Use**

#### **4.8.1 Proposed Action**

Patrick Air Force Base is a desirable site to operate launch support activities due to its coastal location in proximity to Cape Canaveral launch facilities. Additionally, the mild climate allows year round flight operations. The most significant natural constraint to further development on the installation is the almost “to capacity” development of the limited land area occupied by the base. Several other natural constraints affect the opportunity for future development, such as wetlands, coastal zones, soils near the river, and the 100-year floodplain. Although there are nearly 400 acres of Open Space on the base, most of it is not available for construction, primarily due to the requirements for storm water retention, and the general desire to retain Open Space lands as a natural Quality of Life amenity. Most of the Open Space land that is available has been identified for locations of new facilities in Area Development Plans. Operational constraints involve primarily the airfield Clear Zones and Installation Restoration Program (IRP) Sites. Regulations on IRP sites limit the extent of development on 29 areas within PAFB. Although most of these sites are closed or under long term monitoring, they would only be available for limited uses. Additionally, the Wave Guide Cable, a direct burial cable that runs from the Oceanside radar dome west to the bore site tower (1,898 ft) restricts potential land uses in the immediate areas. Existing structures within the Northern Clear Zone are planned for demolition, and functions within these buildings would be relocated as new facilities are constructed.

If the Proposed Action is undertaken to correct land use incompatibilities, and the implementation of planned projects, the majority of land uses on Patrick Air Force Base would be appropriately located and functionally efficient. The most significant revisions to the land use plan involve the relocation of Industrial uses from the river community area, and the removal of structures from the Northern Clear Zone. These changes would not only bring PAFB into compliance with Airfield Criteria, they would also enhance the Quality of Life for base personnel. The land uses in the Clear Zone area would become Open Space, promoting visual quality in the Main Base area. New Facilities and improvements in the river



community area would create a public gathering place in an environment that would capitalize on its riverside location. Further implementation of the recommendations of the Area Development Plans would supplement the positive changes that have been accomplished, and enhance the working and living environment at PAFB.

#### **4.8.2 No Action Alternative**

If the No Action Alternative is selected, new construction would not occur, however, facilities would remain within the Clear Zones, which would continue an unsafe land use condition in the event of aircraft emergencies land use incompatibilities would also continue.

### **4.9 Socioeconomic Resources**

#### **4.9.1 Proposed Action**

The Proposed Action would provide positive impacts to socioeconomics from its implementation. There would not be any noticeable impacts to population, but economic benefits to the region are expected to increased employment and local purchases of materials associated with construction of the facilities. As consumers, all new personnel add to the local economy (purchases) and generate new revenue (such as taxes and fees) for local governments.

#### **4.9.2 No Action Alternative**

There would be no significant impacts to socioeconomics from the No Action Alternative. There would be no impacts to population or employment in the region, but there could be potential negative impacts to recreational facilities.

### **4.10 Environmental Justice**

#### **4.10.1 Proposed Action**

The Proposed Action was reviewed and found to be in compliance with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations, and 32 CFR 989, Environmental Impact Analysis Process. Given the physical parameters of the Proposed Action, analysis indicates little or no potential for substantial environmental effect on any human population outside PAFB boundaries.



#### **4.10.2 No Action Alternative**

The No Action Alternative would have no potential for substantial environmental effect on any human population outside PAFB boundaries.

#### **4.11 Cultural Resources**

##### **4.11.1 Proposed Action**

There are no anticipated significant impacts to cultural resources from the implementation of the proposed action. PAFB procedures, which are governed under State and Federal rules and regulations, are contained in the 45th SW Cultural Resources Management Plan.

A National Park Service archaeologist has made a detailed inspection of PAFB, noting the nature, location, and extent of base construction disturbance. Although the archaeologist did not conduct an intensive survey of the area and no fieldwork was involved, his inspection was sufficient to conclude that is highly unlikely that PAFB contains any significant archaeological cultural resources that could be affected by future construction. A letter dated August 25, 1981 from the State Historic Preservation Office (SHPO) to the Commander of PAFB concurred with this finding and the base was cleared for construction (Appendix E).

Any construction contract would include an “unanticipated discovery” clause, which would specify that it, during construction activities, the selected contractor observes items that might have historical or archaeological value, such observations should be reported immediately to the appropriate authorities in compliance with applicable laws so that a determination can be made as to their significance and what, if any, special disposition of the finds should be made. The construction contractor should cease all activities that may results in the destruction of these resources and should prevent employees from trespassing on, removing or otherwise damaging such resources.

Several existing facilities, however, are eligible or potentially eligible for listing on the *National Register of Historic Places (NRHP)*. These facilities (Table 3-11) must be evaluated for their historic significance prior to any construction, demolition, or other restoration activities. Most activities, including demolition, are permitted after appropriate consultation with the State Historic Preservation Office under Section 106 of the National Historic Preservation Act that may define potential mitigation requirements.



#### **4.11.2 No Action Alternative**

Under the No Action Alternative, the Proposed Action would not occur. There would be no impacts to cultural resources since no change in activities would occur. PAFB would still have to follow procedures, which are governed under State and Federal rules and regulations, and contained in the 45th SW Cultural Resources Management Plan.

### **4.12 Hazardous Materials and Waste Management**

#### **4.12.1 Proposed Action**

There should be no significant impacts anticipated to hazardous materials and waste from the implementation of the Proposed Action. The Proposed Action is demolishing and constructing facilities on PAFB in support of current and future installation requirements. Hazardous materials and wastes could potentially be encountered during demolition of facilities on PAFB in the forms of asbestos containing building materials (ACM) and lead paint. Hazardous materials would be handled in accordance with the PAFB OPLAN 19-14 to ensure they are stored, transported and disposed of properly. Construction design specifications would continue to provide specific procedures to be followed by the construction or demolition contractor for management of hazardous materials and waste.

Map 3-1, *Composite Constraints*, shows the IRP sites at PAFB. Construction activity in the area of any IRP must be reviewed and coordinated with CEVR and FDEP prior to construction activities beginning to ensure construction workers safety and to mitigate any potential environmental impacts associated with the proposed activities. In most cases, projects on PAFB are able to work within IRP sites as long as contaminated soils are left on site, contaminated groundwater isn't disturbed, and monitoring/treatment locations aren't impacted while working under appropriate safety guidelines.

#### **4.12.2 No Action Alternative**

There would be no significant impacts to hazardous materials and waste from the implementation of the No Action Alternative. PAFB's OPLAN 19-14 would continue to provide guidance for handling of hazardous materials on the Base.





#### **4.13 Safety and Occupational Health**

##### **4.13.1 Proposed Action**

Short-term health and safety impacts could occur as a result of ongoing construction activities at PAFB under the Proposed Action. Use of established safety procedures and implementation of site-specific health and safety plans would minimize potential impacts to health and safety from proposed activities.

Demolition projects at PAFB may need to be evaluated on a case-by-case basis to confirm the presence of ACM and lead based paint. The OSHA is responsible for protecting worker health and safety in non-military workplaces. The OSHA regulations are found in 29 CFR. For Air Force operations, AFI 91-301 and AFI 91-202 contain the Air Force's Safety program, and provide the basis for worker safety programs. Specific PAFB programs which affect construction and demolition operations include the Asbestos and Lead-based Paint programs.

The Proposed Action is to demolish and construct facilities on PAFB in support of current and future installation requirements. The demolition of buildings from the Clear Zone would provide a margin of safety for personnel on the ground in the event of aircraft emergencies.

##### **4.13.2 No Action Alternative**

Under the No Action Alternative, existing facilities would be maintained and new facilities would not be constructed in support of changing operational requirements. There would be no impacts to health and safety. There would be no change to the general types of ongoing activities at PAFB. In addition, the obstructions in the Airfield Clear Zones would remain and continue as operational health hazards.



## **5.0 CUMULATIVE IMPACTS**

### **5.1 Definition of Cumulative Impacts**

Cumulative impact as shown in 40 CFR 1508.7 is "...the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

Potential cumulative impacts of the proposed activities are evaluated by determining (1) whether the Proposed Action would have an impact on a given resource and (2) what is the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions.

### **5.2 Past, Present, and Reasonably Foreseeable Actions**

PAFB and its predecessor Banana River Naval Air Station have operated at the base since 1940. During this time period, environmental and land use policies evolved to meet the growing public awareness to environmental and land use issues and concerns. To address these issues and concerns, PAFB has developed, over the years, environmental and land use policies and programs to guide the PAFB in its day-to-day operations, which includes but not limited to:

- 45th Space Wing, PAFB, FL., *Base General Plan (Comprehensive Plan)*. 2003.
- 45th Space Wing, Civil Engineering, Environmental Flight, Environmental Assessment for Development of Patrick Air Force Base, Florida, December 1997.
- 45th Space Wing, Civil Engineering, Environmental Flight, Integrated Natural Resource Management Plan (INRMP), 2001.
- 45th Space Wing, Civil Engineering, Environmental Flight, Cultural Resources Management Plan (CRMP), 2001.
- 45th Space Wing, Civil Engineering, Environmental Flight, 45th Space Wing Guide to Environmental Quality, 1996b.
- 45th Space Wing, OPLAN 19-14, 45th Space Wing Petroleum Products and Hazardous Waste Management Plan. May 2, 1995.
- CH2M HILL, Water System Study, Patrick Air Force Base, Florida. July 1998. Storm Water Pollution Prevention Plan
- 45th Space Wing, Draft OPLAN 32-3, Patrick Air Force Base Spill Prevention and Countermeasures Plan, March 2003.



- 45th Space Wing, PAFB, FL, Bird Hazard Reduction Plan, OPLAN 91-212, January 1998.
- 45th Space Wing, PAFB, FL, Patrick Air Force Base, Air Installation Compatible Use Zone Study, February 2001.

PAFB has developed extensive programs and plans to address environmental and cultural issues that are associated with the base. The general goals and objectives for the installation, as outlined in the PAFB General Plan, ensure that environmental impacts are reduced and/or eliminated. However, future individual actions may still require detailed environmental analysis and recommendations of feasible alternatives prior to construction and/or implementation. This procedure would provide efficient, environmentally sensitive operational support at the installation, and meet the installation's mission need for comprehensive planning.

### **5.3 Analysis of Cumulative Impacts**

#### **5.3.1 Air Quality**

Short-term air quality impacts could occur during construction operations associated with the Proposed Action at PAFB and during the operation of equipment in support of the new areas. The potential impacts are not expected to be significant. It is anticipated that the construction activities and any installed air emitting equipment would not cause or contribute to a violation of the Federal NAAQS or the state AAQS.

Construction-related impacts could result from fugitive dust (particulate matter) and combustion of fuel from construction equipment. In addition, new stationary sources of emissions could be added to the facility as part of the Proposed Action.

Potential emissions generated from the addition of any new stationary sources from a Proposed Action, which could reasonably emit air pollutants, would need to be identified and quantified. The need for a permit or permit exemption would need to be evaluated prior to the construction of any new or modified air polluting equipment. Individual projects would require an analysis of permitting requirements by following the 45th SW procedure for EIAP before the project may proceed.

PAFB must maintain compliance with the conditions specified in Permit No. 0090021-003-AV as part of the Proposed Action. PAFB would assure that the addition or modification of



new equipment would not cause or contribute to a violation of the NAAQS or AAQS. Impacts from the new equipment should not be significant if the proper permitting procedures are followed and equipment is operated using good engineering practice.

Potential projects, which may require evaluation include, but not limited to, the following:

- Expanded Marina Docks (Map1-4, Map #2)
- Marine Dry Dock Relocation (Map1-4, Map #15)
- Vehicle Maintenance/Operations/Vehicle Parking (Map1-4, Map #18)
- Firing Range (Map1-4, Map #19)
- AFES Auto Maintenance facility (Map1-4, Map #20)

### **5.3.2 Water Resources**

There would be small-scale positive impacts to water resources from the implementation of the Proposed Action. As part of the Proposed Action, many areas presently covered with impervious surfaces (asphalt and concrete) would be replaced with natural ground cover. This would allow more precipitation to infiltrate the ground surface and recharge the ground water system. Emergent vegetation would be removed as often as necessary to maintain flow.

The proposed projects, generally described in PAFB's General Plan and General Plan EA, would potentially be subject to the FDEP's Storm Water Rules and Regulations, as well as PAFB's Storm Water Pollution Prevention Plan. The proposed projects must be submitted to PAFB EPF for review and evaluation prior to implementation.

Floodplains are not suitable for the construction of new facilities. However, should construction become necessary within the 100-year floodplain, care must be taken to ensure that project design and construction incorporates flood-proofing measures and that the finished floor elevation is above the flood level. Likewise, any activities occurring in the floodplain must ensure that they would not significantly modify or harm the floodplain or increase the likelihood for loss of life or property. The proposed projects must be submitted to PAFB EPF for review and evaluation prior to implementation. Potential projects, which will require separate evaluation include, but not limited to, the following:



- Construction of Restrooms, Golf Course (Map1-4, Map #6)
- Marine Dry Dock Relocation (Map1-4, Map #15)
- Combined Services Facility (Map1-4, Map #35)
- South Beach Dune Restoration (Map1-4, Map #40)
- River Walk Phase 4 (Map1-4, Map #48)
- 920 Rescue Wing Headquarters (Map1-4, Map #54)
- North Beach Visiting Quarters (Map1-4, Map #61)
- North Beach Recreational Facilities (Map 1-4, Map #62)
- South Beach Recreational Facilities (Map 1-4, Map #63)

### **5.3.3 Geology and Soils**

No cumulative effects are anticipated. By utilizing storm water best management practices during demolition and new construction activities, potential negative impacts on the geology and soils (e.g. sheet flow and gully erosion) would be avoided. By controlling these factors, siltation and turbidity of the canals and waterways would be minimized.

### **5.3.4 Noise**

There would be no significant noise impacts expected from the implementation of the Proposed Action. No cumulative effects are anticipated.

### **5.3.5 Ecological Resources**

There would be no significant impacts to natural resources from implementation of the Proposed Action. The beachfront area between Florida SH A1A and the ocean would remain open to protect the dunes and shoreline. Additionally, the proposed action includes leaving significant open spaces along the Banana River on the west central portion of the Base. Priority would be given to preserving the natural shoreline vegetation, controlling invasive species, dune re-vegetation and beach restoration, all of which are critical to shoreline stabilization. These activities would provide higher quality habitat for the many species which co-exist on PAFB, and ensure their protection.

### **5.3.6 Infrastructure**

PAFB is expected to experience only limited growth over the next few years, and the current infrastructure appears to be adequate, at present and for the near future. No cumulative impacts are anticipated from the Proposed Action. Any impacts from implementation of the proposed action would be of a positive nature.



Currently PAFB does not have any plans to increase groundwater usage. However, off-base usage may increase as surrounding communities experience growth, thus resulting in a potential cumulative impact of increased groundwater usage, which could directly or indirectly impact PAFB in the future.

### **5.3.7 Land Use**

A primary goal of effective land use planning is to create an environment for people to work, play, and live that is functional, efficient, and pleasant. Throughout the planning process, analysts evaluate existing land use and transportation systems, using site and facility planning to produce an arrangement of compatible and functional activities that address future requirements. By using a collaborative process, land use planning results in a plan that provides a logical and realistic direction for future development on base.

At PAFB, land use planning is constrained by a number of factors, including historic development patterns, land configurations, systems technology and military strategy. The array of land uses and the locations of buildings, roads and utilities have changed over time, as missions and needs have evolved. The placement of activities has also responded to the physical and natural environments that existed when each use was developed. Therefore, planning for the location of infrastructure, the proximity of functionally related activities, and the specific needs of installation personnel has been a challenging process of overcoming land use obstacles at PAFB.

If the Proposed Actions are undertaken to correct land use incompatibilities, and the implementation of planned projects, the majority of land uses on Patrick Air Force Base would be appropriately located and functionally efficient, thus creating a positive cumulative impact. The most significant revisions to the land use plan involve the relocation of Industrial uses from the river community area, and the removal of structures from the Northern Clear Zone. These changes would not only bring PAFB into compliance with Airfield Criteria, they would also enhance the Quality of Life for base personnel. The land uses in the Clear Zone area would become Open Space, promoting visual quality in the Main Base area. New Facilities and improvements in the river community area would create a public gathering place in an environment that would capitalize on its riverside location. Further implementation of the recommendations of the Area Development Plans would



supplement the positive changes that have been accomplished, and enhance the working and living environment at PAFB.

#### **5.3.8 Socioeconomic Resources**

No cumulative impacts are anticipated from the proposed action with respect to socioeconomic resources. Any impacts from implementation of the proposed action would be of a positive nature.

#### **5.3.9 Environmental Justice**

No cumulative impacts are anticipated from the proposed action with respect to environmental justice.

#### **5.3.10 Cultural Resources**

No cumulative impacts are anticipated from the proposed action with respect to cultural resources.

#### **5.3.11 Hazardous Materials and Waste Management**

No cumulative impacts are anticipated from the proposed action with respect to Hazardous Materials and Waste Management. Waste amounts would increase with continued abatement and demolition of buildings that become unusable, but then there would be a leveling off as new facilities are constructed that would be devoid of asbestos and heavy metal paint issues and won't require very much maintenance.

#### **5.3.12 Safety and Occupational Health**

No cumulative impacts are anticipated from the proposed action with respect to safety and occupational health. Furthermore, the Proposed Action includes demolition and construction of facilities on PAFB in support of current and future installation requirements. The demolition of buildings from the Airfield Clear Zone would provide a margin of safety for personnel on the ground in the event of aircraft emergencies.

### **5.4 Irreversible and Irretrievable Commitment of Resources**

The Proposed Action would result in some irreversible and irretrievable commitment of resources such as wood, concrete, minerals and labor. This commitment of resources is not





significantly different from that necessary for many other similar building programs. It is similar to the building activities that have been carried out on PAFB over recent years.



## **6.0 REFERENCES**

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## **APPENDICES**



**APPENDIX A**  
**EIAP DOCUMENTS FILE GUIDE**





FILE NO.	TITLE	LOCATION	FONSI/EBS DATE
<b>33</b>	<b>Environmental Assessments</b>	<b>File Cabinet 6, Drawers 1, 5-15</b>	
<b>33-1</b>	<b>EIAP - General</b>	<b>File Cabinet 6, Drawer 5</b>	
<b>33-2</b>	<b>MILCON - General</b>	<b>File Cabinet 6, Drawer 5</b>	
<b>33-3</b>	<b>PAFB EAs/Projects</b>	<b>Cabinet 6, Drawers 5- 8</b>	
<b>33-3-1</b>	<b>45 SW Actions</b>	<b>Cabinet 6, Drawers 5-7</b>	
33-3-1-1	Beach Dune Crosswalk	Cabinet 6, Drawer 5	04/01/78
33-3-1-2	Add/Alt Plating Shop & IWWTP	Cabinet 6, Drawer 5	06/14/78
33-3-1-3	919 Special Ops Group	Cabinet 6, Drawer 5	09/13/78
33-3-1-4	Silver Recovery Processor	Cabinet 6, Drawer 5	11/15/78
33-3-1-5	Contract Operations of Base Supply	Cabinet 6, Drawer 5	02/27/79
33-3-1-6	Irrigation Sup Dorms & VOQs	Cabinet 6, Drawer 5	04/21/80
33-3-1-7	Upgrade STPs	Cabinet 6, Drawer 5	04/11/80
33-3-1-8	Aircraft Corrosion Control Facility	Cabinet 6, Drawer 5	03/13/81
33-3-1-9	Aerial Pesticide Spraying	Cabinet 6, Drawer 5	05/11/81
33-3-1-10	Recreational Complex-Capehart Hsg	Cabinet 6, Drawer 5	07/21/81
33-3-1-11	Temporary Lodging Facility	Cabinet 6, Drawer 5	Not in file
33-3-1-12	Rpr Overhead Electrical, MFH	Cabinet 6, Drawer 5	09/18/81
33-3-1-13	Beach/Shore Restoration & Prot- 5 yr	Cabinet 6, Drawer 5	09/22/82
33-3-1-14	Install Weather Radar, Fac 42	Cabinet 6, Drawer 5	05/11/83
33-3-1-15	Temporary Locating Radar 7, 14	Cabinet 6, Drawer 5	05/17/84
33-3-1-16	Low Altitude Tactical Navigation Area	Cabinet 6, Drawer 5	10/21/85
33-3-1-17	Drawdown of O-2A Aircraft	Cabinet 6, Drawer 5	06/26/86
33-3-1-18	Traffic Checkhouse & Road Improve	Cabinet 6, Drawer 5	08/18/86
33-3-1-19	Contractor Relocation	Cabinet 6, Drawer 5	Not in file
33-3-1-20	UST Removal/Rpl/Refurbishment	Cabinet 6, Drawer 5	05/22/93
33-3-1-21	Replacement MFH	Cabinet 6, Drawer 7	07/03/92
33-3-1-22	Wastewater Tie-In w/Cocoa Beach	Cabinet 6, Drawer 7	09/30/02
33-3-1-23	Banana River Shoreline Restoration	Cabinet 6, Drawer 7	10/21/93
33-3-1-24	Addition to Self-Help Warehouse	Cabinet 6, Drawer 7	06/03/93
33-3-1-25	Air Traffic Control Tower	Cabinet 6, Drawer 7	10/21/93
33-3-1-26	Air Freight/Pass & Supply Terminal	Cabinet 6, Drawer 7	07/29/94
33-3-1-27	Security Police Ops Facility	Cabinet 6, Drawer 7	03/29/94
33-3-1-28	BCE Storage Facility	Cabinet 6, Drawer 7	07/10/95
33-3-1-29	Visiting Officers Support Fac	Cabinet 6, Drawer 7	08/18/95
33-3-1-30	Basewide PAFB EA (Development & Maintenance)	Cabinet 6, Drawer 7	01/01/98
33-3-1-31	Flam Storage Fac-Hospital	Cabinet 6, Drawer 7	06/28/94
33-3-1-32	Material Recycling Fac	Cabinet 6, Drawer 7	08/18/96
33-3-1-33	Depot Level Maint Corrosion Control Facility	Cabinet 6, Drawer 7	Not in file
33-3-1-34	South Housing Privatization	Cabinet 6, Drawer 7	02/26/01
<b>33-3-2</b>	<b>Svs Action (NAF)</b>	<b>Cabinet 6, Drawer 7</b>	
33-3-2-1	Alter/Repair Officers' Club	Cabinet 6, Drawer 7	07/11/79
33-3-2-2	Marina Facilities Damage	Cabinet 6, Drawer 7	08/01/80
33-3-2-3	Construct Boat Slips, Yacht Basin	Cabinet 6, Drawer 7	None
33-3-2-4	Golf Course Path and Facilities	Cabinet 6, Drawer 7	08/04/93
33-3-2-5	Riverside Recreational Area	Cabinet 6, Drawer 7	04/21/83
33-3-2-6	Expand/Alter Youth Center	Cabinet 6, Drawer 8	08/10/95
33-3-2-7	Expand Marina	Cabinet 6, Drawer 8	05/03/96
<b>33-3-3</b>	<b>Tenant Actions</b>	<b>Cabinet 6, Drawer 8</b>	
33-3-3-1	Mirror Relay Experiment (SMC)	Cabinet 6, Drawer 8	10/01/87
33-3-3-2	Beddown of the 301st RQS (now 920th RQG)	Cabinet 6, Drawer 8	07/31/96
33-3-3-3	BX Conv, Class VI, & Gas Stat (AAFES)	Cabinet 6, Drawer 8	06/17/94
33-3-3-4	Expansion of BX (AAFES)	Cabinet 6, Drawer 8	04/27/96



FILE NO.	TITLE	LOCATION	FONSI/EBS DATE
33-3-3-5	FLANG MA Fac	Cabinet 6, Drawer 8	09/19/96
33-3-3-6	DEOMI	Cabinet 6, Drawer 8	Not in file
33-3-3-7	HQ AFRES/45SW Medical Complex	Cabinet 6, Drawer 8	12/12/96
33-3-3-8	Relocation of the 41st RQS	Cabinet 6, Drawer 8	08/05/96
33-3-3-9	920th Rescue Group Search and Rescue Training	Cabinet 6, Drawer 8	12/11/03
<b>33-4-1</b>	<b>CCFAS Facility</b>	<b>Cabinet 6, Drawers 8-9</b>	
33-4-1-1	Berthing Wharf	Cabinet 6, Drawer 8	08/01/86
33-4-1-2	Perc Ponds for Main STP	Cabinet 6, Drawer 8	07/24/87
33-4-1-3	Concrete Slab TGSF	Cabinet 6, Drawer 8	Catexed
33-4-1-4	SWWTP	Cabinet 6, Drawer 8	11/25/92
33-4-1-5	HW Storage Facility	Cabinet 6, Drawer 8	03/16/93
33-4-1-6	Fire Systems Upgrade Multi	Cabinet 6, Drawer 8	09/20/92
33-4-1-7	Pest Control Facility	Cabinet 6, Drawer 8	02/08/93
33-4-1-8	Building Demolitions FY 94-98	Cabinet 6, Drawer 8	09/12/94
33-4-1-9	Perc Ponds, Tel IV, KSC	Cabinet 6, Drawer 8	02/08/93
33-4-1-10	Ops & Admin Fac Generator Shop	Cabinet 6, Drawer 8	02/08/93
33-4-1-11	Searchlight O&M Facility	Cabinet 6, Drawer 8	02/08/93
33-4-1-12	Addition to S. Fire Station #3	Cabinet 6, Drawer 8	06/16/93
33-4-1-13	Consolidated STP	Cabinet 6, Drawer 8	07/22/93
33-4-1-14	Corrosion Control Facility (MilCon)	Cabinet 6, Drawer 9	12/04/95
33-4-1-15	Fire Training Area (MilCon)	Cabinet 6, Drawer 9	02/06/95
33-4-1-16	ROCC Backup Power	Cabinet 6, Drawer 9	12/27/93
33-4-1-17	Small Arms Range	Cabinet 6, Drawer 9	06/23/95
33-4-1-18	Hypergolic Stockpile Storage Facility	Cabinet 6, Drawer 9	10/05/95
33-4-1-19	Lines of Sight CCAS/KSC	Cabinet 6, Drawer 9	01/17/97
33-4-1-20	Fire Station (MilCon)	Cabinet 6, Drawer 9	04/02/98
33-4-1-21	CX-34	Cabinet 6, Drawer 9	Not in file
33-4-1-22	Exhibit Center at South Gate	Cabinet 6, Drawer 9	07/30/97
33-4-1-23	Infrasound Test	Cabinet 6, Drawer 9	07/31/02
33-4-1-24	Laser Test Facility	Cabinet 6, Drawer 9	01/21/00
<b>33-4-2</b>	<b>CCAFS Other</b>	<b>Cabinet 6, Drawer 9</b>	
33-4-2-1	Beach Renourishment	Cabinet 6, Drawer 9	Not in file
33-4-2-2	Port Canaveral Widening (EIS)	Cabinet 6, Drawer 9	Not in file
33-4-2-3	Landfill Operations	Cabinet 6, Drawer 9	01/10/94
33-4-2-4	Storage Tank Removal & Replacement	Cabinet 6, Drawer 9	04/08/93
33-4-2-5	Clear line of Site/17B/Weather Station	Cabinet 6, Drawer 9	02/08/93
33-4-2-6	Upgrade Electrical Distribution Sup	Cabinet 6, Drawer 9	10/05/93
33-4-2-7	FPL Powerline Upgrade	Cabinet 6, Drawer 10	07/05/94
33-4-2-8	City Gas Pipeline	Cabinet 6, Drawer 10	09/20/96
33-4-2-9	Programmatic EIS for Commercial Launch Vehicles	Cabinet 6, Drawer 10	Not in file
33-4-2-10	North Jetty Extension and Sand-Tightening (EA)	Cabinet 6, Drawer 10	09/03/02
<b>33-4-3</b>	<b>NASA Facilities</b>	<b>Cabinet 6, Drawer 10</b>	
33-4-3-1	Joint Use Waste Accumulation Site	Cabinet 6, Drawer 10	08/01/94
33-4-3-2	Operation of a portion of the HSSF	Cabinet 6, Drawer 10	10/05/95
33-4-3-3	Advanced Technology Development Center (ATDC)	Cabinet 6, Drawer 10	05/01/01
33-4-3-4	Hydrazine Production Plant	Cabinet 6, Drawer 10	Cancelled
33-4-3-5	EIS-KSC	Cabinet 6, Drawer 10	10/01/79
33-4-3-6	EIS-Space Shuttle Advanced SRM Program	Cabinet 6, Drawer 10	03/01/89
<b>33-4-4</b>	<b>Payload Facilities</b>	<b>Cabinet 6, Drawer 10</b>	
33-4-4-1	Payload Processing Facility	Cabinet 6, Drawer 10	Not in file
33-4-4-2	Payload Spin Test Fac Mods	Cabinet 6, Drawer 10	Not in file
33-4-4-3	Test Ops Control Center (TOCC)	Cabinet 6, Drawer 10	10/17/88
33-4-4-4	Transportable Satellite Test Resource (TSTR)	Cabinet 6, Drawer 10	07/23/93
33-4-4-5	Satellite Processing Support Facility	Cabinet 6, Drawer 10	08/11/94
<b>33-4-5</b>	<b>Titan</b>	<b>Cabinet 6, Drawer 10</b>	
33-4-5-1	Titan IV, 34D, CX-41	Cabinet 6, Drawer 10	07/01/86



FILE NO.	TITLE	LOCATION	FONSI/EBS DATE
33-4-5-2	Titan IV SRMU/SMAB/Payload Fairing-Cleaning Facility/IUS/NUS/Centaur	Cabinet 6, Drawer 10	02/23/90
33-4-5-3	Titan CX-41 Mods	Cabinet 6, Drawer 10	Not in file
33-4-5-4	Titan IV Prgm Supplement/VIB expans.	Cabinet 6, Drawer 10	08/08/88
33-4-5-5	CX-41 ByPass Road/Fence	Cabinet 6, Drawer 10	06/12/89
33-4-5-6	Titan SRMU X-Ray Facility	Cabinet 6, Drawer 10	02/01/88
33-4-5-7	SMA Assembly Fac (SMARF)	Cabinet 6, Drawer 10	Not in file
33-4-5-8	CX-41 Parking	Cabinet 6, Drawer 10	09/28/94
33-4-5-9	Titan II & IV Launch SVS Contract	Cabinet 6, Drawer 10	Catexed
33-4-5-10	Titan 42+ SRMU Buy	Cabinet 6, Drawer 10	Not in file
33-4-5-11	Long Term Staging Titan SRMU/VAFB	Cabinet 6, Drawer 10	04/01/94
33-4-5-12	LC-41 Deactivation	Cabinet 6, Drawer 12	11/01/98
33-4-5-13	Titan Deactivation	Cabinet 6, Drawer 12	Not started
<b>33-4-6</b>	<b>Atlas</b>	<b>Cabinet 6, Drawer 12</b>	
33-4-6-1	Atlas II AS, Commercial CX 36-B	Cabinet 6, Drawer 12	08/07/91
33-4-6-2	MLV II, CX-36 (Atlas II)	Cabinet 6, Drawer 12	02/03/89
33-4-6-3	MLV II Supplement-CX-11 & Hangar J	Cabinet 6, Drawer 12	08/01/89
33-4-6-4	Centaur Processing & Tanking Facility	Cabinet 6, Drawer 12	10/18/91
33-4-6-5	Atlas IIAR/ARS (Atlas III)	Cabinet 6, Drawer 12	12/02/97
33-4-6-6	Atlas V Rollback	Cabinet 6, Drawer 12	03/01/02
33-4-6-7	Atlas Deactivation	Cabinet 6, Drawer 12	Not started
<b>33-4-7</b>	<b>Delta</b>	<b>Cabinet 6, Drawer 12</b>	
33-4-7-1	Delta II MLV Program (and LC-17 mods)	Cabinet 6, Drawer 12	05/01/88
33-4-7-2	Delta Launch Ops Control Fac.(OB)	Cabinet 6, Drawer 12	11/15/93
33-4-7-3	Delta MLV I, LC-17	Cabinet 6, Drawer 12	Not in file
33-4-7-4	SRM Storage	Cabinet 6, Drawer 12	12/01/92
33-4-7-5	Chiller CX-17	Cabinet 6, Drawer 12	07/09/93
33-4-7-6	Delta III	Cabinet 6, Drawer 12	05/16/96
33-4-7-7	Med-Lite(NASA)	Cabinet 6, Drawer 12	09/04/96
33-4-7-8	Delta IV Demostat	Cabinet 6, Drawer 12	Not in file
33-4-7-9	DSCS III/Delta IV	Cabinet 6, Drawer 12	Not in file
<b>33-4-8</b>	<b>SFA</b>	<b>Cabinet 6, Drawer 12</b>	
33-4-8-1	SFA AF Form 813s	Cabinet 6, Drawer 12	Not an EA
33-4-8-2	SFA EA for SLC-46	Cabinet 6, Drawer 12	11/18/94
33-4-8-3	SFA 1994 Dual Use Program	Cabinet 6, Drawer 13	Catexed
33-4-8-4	Castor 120 Transportation Plan	Cabinet 6, Drawer 13	Not an EA
33-4-8-5	Customer Service Center/Commercial Space Ops Ctr	Cabinet 6, Drawer 13	Catexed
33-4-8-6	Athena (former Lockheed (Martin) Launch Vehicle(LLV)	Cabinet 6, Drawer 13	09/27/96
33-4-8-6-1	ROCSAT on Athena 1	Cabinet 6, Drawer 13	09/01/98
33-4-8-7	SLC 20 Reactivation	Cabinet 6, Drawer 13	Catexed
33-4-8-8	LiteStar (Student Sub-Orbital Program, MARSROC)	Cabinet 6, Drawer 13	Catexed
33-4-8-9	LC-20 Quick Reaction Program	Cabinet 6, Drawer 13	01/01/99
<b>33-4-9</b>	<b>Other Launch Veh</b>	<b>Cabinet 6, Drawer 13</b>	
33-4-9-1	Starbird	Cabinet 6, Drawer 13	10/01/87
33-4-9-2	Aerostat	Cabinet 6, Drawer 13	Not in file
33-4-9-3	LOSAT-X	Cabinet 6, Drawer 13	07/07/91
33-4-9-4	National Launch System	Cabinet 6, Drawer 13	Not in file
33-4-9-5	Programmic EA-Commercial ELVs	Cabinet 6, Drawer 13	02/01/86
33-4-9-6	DOT EIS	Cabinet 6, Drawer 13	05/24/01
33-4-9-7	EELV – EIS	Cabinet 6, Drawer 13	06/08/98
33-4-9-7-1	EELV – e-mail transmittals	Cabinet 6, Drawer 13	Not an EA
33-4-9-7-2	EELV – environ. Meetings/IRP/EIAP/EIS	Cabinet 6, Drawer 13	Not an EA
33-4-9-7-3	EELV – non-disclosure documents	Cabinet 6, Drawer 13	Not an EA
33-4-9-7-4	EELV – Site Action Working group (SAW)	Cabinet 6, Drawer 13	Not an EA
33-4-9-7-5	EELV – GAO visit	Cabinet 6, Drawer 13	Not an EA
33-4-9-7-6	EELV EIS Scoping Meetings	Cabinet 6, Drawer 13	Not an EA



FILE NO.	TITLE	LOCATION	FONSI/EBS DATE
33-4-9-7-7	EELV CSOSA Annex A	Cabinet 6, Drawer 13	Not an EA
33-4-9-7-8	EELV SEIS	Cabinet 6, Drawer 13	03/01/00
33-4-9-8	VentureStar (LMA)	Cabinet 6, Drawer 13	Cancelled
33-4-9-9	NASA Expendable Launch Vehicle and Propulsion Program	Cabinet 6, Drawer 13	07/01/73
33-4-9-10	Space Shuttle Advanced Solid Rocket Motor Program	Cabinet 6, Drawer 13	10/01/89
<b>33-4-10</b>	<b>SMC Payloads</b>	<b>Cabinet 6, Drawer 13</b>	
33-4-10-1	Starlab	Cabinet 6, Drawer 13	08/17/90
33-4-10-2	Defense Support Prgr (DSP), Block 23	Cabinet 6, Drawer 13	06/01/93
33-4-10-3	MILSTAR I & II	Cabinet 6, Drawer 13	07/20/93
33-4-10-4	NAVSTAR GPS Block II/IIA	Cabinet 6, Drawer 13	09/01/93
33-4-10-5	NAVSTAR GPS Block IIR/MLV III	Cabinet 6, Drawer 14	12/08/94
33-4-10-6	Defense Satellite Comm. Syst. (DSCS) III/IABS	Cabinet 6, Drawer 14	07/10/95
33-4-10-7	Navstar GPS Block IIF	Cabinet 6, Drawer 14	Not in file
33-4-10-8	SBIRS (Space-based Infrared System)	Cabinet 6, Drawer 14	Draft only
33-4-10-8-1	SMTS/FDS (Supp. Missile Tracking Sys/Flight Demo Sys)	Cabinet 6, Drawer 14	01/21/97
33-4-10-8-2	SBL Integrated Flight Experiment-Ground Testing	Cabinet 6, Drawer 14	11/21/00
<b>33-4-11</b>	<b>NASA Payloads</b>	<b>Cabinet 6, Drawer 14</b>	
33-4-11-1	EIS-CASSINI	Cabinet 6, Drawer 14	10/20/95
	Supplemental EIS - Cassini	Cabinet 6, Drawer 14	08/04/97
33-4-11-2	Mars Pathfinder	Cabinet 6, Drawer 14	10/24/94
33-4-11-3	Mars Global Surveyor	Cabinet 6, Drawer 14	02/02/96
33-4-11-4	Near Earth Asteroid Rendezvous (NEAR)	Cabinet 6, Drawer 14	02/16/96
33-4-11-5	Mars Surveyor 98	Cabinet 6, Drawer 14	09/03/98
33-4-11-6	STS Routine Payloads	Cabinet 6, Drawer 14	Draft only
33-4-11-7	X-33	Cabinet 6, Drawer 14	06/24/96
33-4-11-8	Lunar Prospector	Cabinet 6, Drawer 14	12/23/96
33-4-11-9	Stardust	Cabinet 6, Drawer 14	05/07/98
33-4-11-10	Globalstar	Cabinet 6, Drawer 14	Catexed
33-4-11-11	New Millennium Program	Cabinet 6, Drawer 14	06/07/98
33-4-11-12	X-34	Cabinet 6, Drawer 14	Not in file
33-4-11-13	Pluto-Kuiper Belt Mission	Cabinet 6, Drawer 15	Pre Draft
33-4-11-14	Genesis	Cabinet 6, Drawer 15	11/01/00
33-4-11-15	Programatic Payloads	Cabinet 6, Drawer 15	06/02/02
33-4-11-16	Ulysses Mission	Cabinet 6, Drawer 15	06/01/90
33-4-11-17	Mars Exploration Rover-2003	Cabinet 6, Drawer 15	01/30/03
<b>33-4-12</b>	<b>Other Payloads</b>	<b>Cabinet 6, Drawer 15</b>	
33-4-12-1	SDIO/BMDO-Navy LEAP	Cabinet 6, Drawer 15	09/10/92
33-4-12-2	SDIO/BMDO Balloon Program	Cabinet 6, Drawer 15	Nothing in file
33-4-12-3	Nuclear Electric Propulsion-TOPAZ	Cabinet 6, Drawer 15	Not in file
33-4-12-4	Space Infrared Telescope	Cabinet 6, Drawer 15	11/01/01
<b>33-4-13</b>	<b>Non-45 SW Projects</b>	<b>Cabinet 6, Drawer 15</b>	
33-4-13-1	North Entrance Port Security Barrier, Kings Bay	Cabinet 6, Drawer 15	07/09/02
33-4-13-2	DOD Closure of EOD Ranges	Cabinet 6, Drawer 15	Not in file
33-4-13-3	Theater Missile Defense Extended Test Range	Cabinet 6, Drawer 1	11/01/94
33-4-13-4	West Robins Housing Privatization Project	Cabinet 6, Drawer 1	06/01/98
33-4-13-5	Hypergolic Storage and Stockpile Facility Modifications	Cabinet 6, Drawer 1	10/01/89
33-4-13-6	Vacant		
	<b>ENVIRONMENTAL REVIEWS</b>	<b>Cabinet 6, Drawer 15</b>	
<b>33-5-1</b>	<b>Ascension AAF</b>	<b>Cabinet 6, Drawer 15</b>	
33-5-1-1	Starlab Site	Cabinet 6, Drawer 15	08/28/90
33-5-1-2	Off Shore Fuel Unloading	Cabinet 6, Drawer 15	12/09/88
33-5-1-3	Instrumentation Facility	Cabinet 6, Drawer 15	11/26/90



FILE NO.	TITLE	LOCATION	FONS/EBS DATE
33-5-1-4	Power/Water Distillation Plants	Cabinet 6, Drawer 15	02/25/92
33-5-1-5	Sewage Treatment Plant	Cabinet 6, Drawer 15	10/20/93
33-5-1-6	GPS Antenna	Cabinet 6, Drawer 15	05/19/83
33-5-1-7	Dormitory	Cabinet 6, Drawer 15	06/03/94
33-5-1-8	Goethermal Energy/Windfarm	Cabinet 6, Drawer 15	09/27/94
33-5-1-9	Consolidated Demolitions	Cabinet 6, Drawer 15	09/05/96
33-5-1-10	Base Supplies and Equip Whse	Cabinet 6, Drawer 15	11/14/94
<b>33-5-2</b>	<b>Antiqua AS</b>	<b>Cabinet 6, Drawer 15</b>	
33-5-2-1	LSM Landing Ramp	Cabinet 6, Drawer 15	05/16/88
33-5-2-2	Starlab Site on Antiqua	Cabinet 6, Drawer 15	09/07/90
33-5-2-3	Instrumentation Facility	Cabinet 6, Drawer 15	11/09/90
33-5-2-4	Relocation Telemetry Boresight Tower	Cabinet 6, Drawer 15	05/18/93
33-5-2-5	Extend Security Fence	Cabinet 6, Drawer 15	05/19/93
33-5-2-6	Site Prep: Judge Bay Transmitter	Cabinet 6, Drawer 15	02/03/81
33-5-2-7	Electric Power Plant AA	Cabinet 6, Drawer 15	10/27/94
33-5-2-8	Building Demolitions for Antiqua AS	Cabinet 6, Drawer 15	07/18/95
33-5-2-9	Small Boat Ramp AAS	Cabinet 6, Drawer 15	05/11/98
<b>33-5-3</b>	<b>Other Downrange</b>	<b>Cabinet 6, Drawer 15</b>	
33-5-3-1	JDIF Relay Station	Cabinet 6, Drawer 15	07/16/84
33-5-3-2	Jupiter Inlet Station	Cabinet 6, Drawer 15	10/06/89
33-5-3-3	Minton Road Expansion	Cabinet 6, Drawer 15	05/20/91
33-5-3-4	BE MA/Storage Fac, JDMTA	Cabinet 6, Drawer 15	08/16/93
33-5-3-5	Ops Support Fac Malabar TA	Cabinet 6, Drawer 15	02/06/94
<b>33-6</b>	<b>ENVIRONMENTAL BASELINE SURVEYS/WAIVERS</b>	<b>Cabinet 4, Drawers 1-4, 7-8</b>	
<b>33-6-1</b>	<b>PAFB EBSs</b>	<b>Cabinet 4, Drawer 3</b>	
33-6-1-1	FLANG	Cabinet 4, Drawer 3	10/01/93
33-6-1-2	Utilities Privatization	Cabinet 4, Drawer 3	10/13/99
33-6-1-3	Department of State	Cabinet 4, Drawer 3	12/26/85
33-6-1-4	Animal Control Bldg, Pineda Causway (DOT is OPR)	Cabinet 4, Drawer 3	Not in files
33-6-1-5	Harbor City Ambulance	Cabinet 4, Drawer 3	Not in files
33-6-1-6	Vacant	Cabinet 4, Drawer 3	
33-6-1-7	South Housing Privatization	Cabinet 4, Drawer 3	01/06/99
	South Housing Privatization, Supplement	Cabinet 4, Drawer 3	01/22/01
33-6-1-8	Melbourne Beach Optical Tracking Annex	Cabinet 4, Drawer 3	08/28/01
33-6-1-9	General Officer's Quarters	Cabinet 4, Drawer 3	05/06/02
<b>33-6-2</b>	<b>PAFB EBS Waivers</b>	<b>Cabinet 4, Drawer 3</b>	
33-6-2-1	Elevated Water Tank	Cabinet 4, Drawer 3	06/18/97
33-6-2-2	U. S. Customs	Cabinet 4, Drawer 3	07/01/02
33-6-2-3	Space Coast Credit Union	Cabinet 4, Drawer 3	07/14/02
33-6-2-4	AFGE Union, Building 423	Cabinet 4, Drawer 3	09/24/97
33-6-2-5	Defense Contract Management Office, Building 423	Cabinet 4, Drawer 3	01/13/98
33-6-2-6	COE, Building 738	Cabinet 4, Drawer 3	02/21/98
33-6-2-7	Dept. of Army, Buildings 407 & 410	Cabinet 4, Drawer 3	02/21/98
33-6-2-8	FAA, Tower East of Building 1364	Cabinet 4, Drawer 3	07/09/98
33-6-2-9	FAA, Building 991	Cabinet 4, Drawer 3	08/31/98
33-6-2-10	Officer's Wives Welfare Fund, Building 998	Cabinet 4, Drawer 3	02/27/99
33-6-2-11	COE, North Beach Renourishment	Cabinet 4, Drawer 3	10/06/99
33-6-2-12	City of Cocoa Beach Utilities, Cocoa Beach Lift Station	Cabinet 4, Drawer 3	12/08/00
33-6-2-13	FPL Easement, Delta IV Substation	Cabinet 4, Drawer 3	08/02/99
33-6-2-14	VFW, Hangar 750, JROTC Drill meet	Cabinet 4, Drawer 3	06/06/01
33-6-2-15	Indian River Kontrol Society, Hangar 750	Cabinet 4, Drawer 3	06/06/01
33-6-2-16	Titan Systems Corporation, Malabar	Cabinet 4, Drawer 3	06/25/01
33-6-2-17	Coast Guard Auxiliary, Building 313	Cabinet 4, Drawer 3	06/25/01
33-6-2-18	FAA, Use of Office Space in Building 423	Cabinet 4, Drawer 3	08/27/02
33-6-2-19	FDOT, Right of Entry for Sign	Cabinet 4, Drawer 3	01/15/03





FILE NO.	TITLE	LOCATION	FONSI/EBS DATE
<b>33-6-3</b>	<b>CCAFS EBSs</b>	<b>Cabinet 4, Drawer 3</b>	
33-6-3-1	Amend to GD Lease for CX-11, SPCCAN-2-91-0007	Cabinet 4, Drawer 3	06/01/93
33-6-3-2	MMAS Modular Fac	Cabinet 4, Drawer 3	03/01/95
33-6-3-3	Spaceport FI Authority SLC-46	Cabinet 4, Drawer 3	06/12/95
33-6-3-4	Florida Solar Energy Center	Cabinet 4, Drawer 3	08/15/95
	Florida Solar Energy Center EBS Supplement	Cabinet 4, Drawer 3	04/07/98
33-6-3-5	Hangar S	Cabinet 4, Drawer 4	10/16/95
33-6-3-6	Cocoa Beach #1	Cabinet 4, Drawer 4	03/27/97
33-6-3-7	Cocoa Beach #2	Cabinet 4, Drawer 4	03/27/97
33-6-3-8	USCCI	Cabinet 4, Drawer 4	05/01/96
33-6-3-9	Area 57, Delta III	Cabinet 4, Drawer 4	07/05/96
33-6-3-10	Lockheed Martin Aerospace Supplement	Cabinet 4, Drawer 4	07/08/02
33-6-3-11	Hanger C/Aerostat	Cabinet 4, Drawer 4	04/01/02
33-6-3-12	Spaceport FL Authority SLC-20 EBS	Cabinet 4, Drawer 4	02/09/98
	SFA SLC 20 Amendment	Cabinet 4, Drawer 4	12/04/98
	Exit EBS - Facilities	Cabinet 4, Drawer 4	11/06/02
	Exit EBS - Facilities/Land	Cabinet 4, Drawer 4	11/18/02
33-6-3-13	EELV - Boeing License	Cabinet 4, Drawer 4	
	Phase 1 (Book 2)	Cabinet 4, Drawer 1	06/08/98
	Phase 2, Stage 1 (Book 2)	Cabinet 4, Drawer 1	06/29/98
33-6-3-14	EELV - LMA	Cabinet 4, Drawer 4	
	Phase 1; Amendment 1 to Phase 1	Cabinet 4, Drawer 1	08/14/98
	Titan IV Facilities - Support of Atlas V	Cabinet 4, Drawer 4	08/05/02
33-6-3-15	LC -12 (for Atlas III)	Cabinet 4, Drawer 4	09/29/99
33-6-3-16	Boeing Delta II/III Commercial Program	Cabinet 4, Drawer 1	08/19/99
33-6-3-17	DASO	Cabinet 4, Drawer 4	08/14/98
33-6-3-18	Proposed Commercialization of LC 47	Cabinet 4, Drawer 4	09/05/02
33-6-3-19	Boeing Delta IV Water Tank/Pump House	Cabinet 4, Drawer 4	06/07/00
33-6-3-20	SLC 15 Commercialization, Beal Aerospace	Cabinet 4, Drawer 2	Draft
33-6-3-21	Phase I, Titan Facilities (ITL Area)	Cabinet 4, Drawer 2	02/12/99
33-6-3-22	Update for Hangar AM	Cabinet 4, Drawer 2	06/16/99
33-6-3-23	LMA, SLC 36 and Support Facilities	Cabinet 4, Drawer 4	01/02/03
<b>33-6-4</b>	<b>CCAFS EBS Waivers</b>	<b>Cabinet 4, Drawer 4</b>	
33-6-4-1	19 Weather Stations	Cabinet 4, Drawer 4	12/13/96
33-6-4-2	JDMTA Boresight Tower	Cabinet 4, Drawer 4	01/09/99
33-6-4-3	Portland Oregon, Weather Tower	Cabinet 4, Drawer 4	05/06/97
33-6-4-4	KSC Credit Union, ATM	Cabinet 4, Drawer 4	01/15/03
33-6-4-5	Bell South Telecommunications, Facility 1641	Cabinet 4, Drawer 4	09/23/97
33-6-4-6	Merrit Island Airport, RSA Tower	Cabinet 4, Drawer 4	09/30/98
33-6-4-7	Space Coast Executive Airport, SODAR Tower	Cabinet 4, Drawer 4	09/30/98
33-6-4-8	Brevard County Regional WWTP, Weather Tower	Cabinet 4, Drawer 4	10/27/98
33-6-4-9	Bellsouth Mobility, Tower 26600	Cabinet 4, Drawer 4	12/28/98
33-6-4-10	City Gas of Florida, Natural Gas Pipeline	Cabinet 4, Drawer 4	10/16/98
33-6-4-11	Lori Wilson Park, Meteorological Tower	Cabinet 4, Drawer 4	10/27/98
33-6-4-12	Seminole Ranch, Weather tower	Cabinet 4, Drawer 4	11/06/98
33-6-4-13	Melbourne Airport, Weather Tower	Cabinet 4, Drawer 4	11/06/98
33-6-4-14	Duda Ranch, Weather Tower	Cabinet 4, Drawer 4	11/06/98
33-6-4-15	Bell South Comms, Building 1641	Cabinet 4, Drawer 4	10/07/98
33-6-4-16	Satellite Comm Sys, Building 1641	Cabinet 4, Drawer 4	03/17/99
33-6-4-17	Canaveral Port Authority, Minimum Wake Sign	Cabinet 4, Drawer 4	08/19/99
33-6-4-18	Rockledge, Weather Tower	Cabinet 4, Drawer 4	10/30/00
33-6-4-19	Malabar - Dept of Army, Fac., 42	Cabinet 4, Drawer 4	03/11/99
33-6-4-20	FLANG - Fac. 49925	Cabinet 4, Drawer 4	06/25/01
33-6-4-21	COE - Land Permit for Jetty Extension	Cabinet 4, Drawer 4	08/02/02
33-6-4-22	Malabar - Palm Bay Police Department License/ROE	Cabinet 4, Drawer 4	08/07/02
33-6-4-23	Boeing, Hangar E, Four Rooms	Cabinet 4, Drawer 4	12/08/98
33-6-4-24	Lockheed Martin, Facility 5500AV	Cabinet 4, Drawer 4	02/24/99
33-6-4-25	Lockheed Martin, Facility 55069	Cabinet 4, Drawer 4	05/24/01
33-6-4-26	Exhibit Center	Cabinet 4, Drawer 4	08/24/00
33-6-4-27	Removal of land parcels	Cabinet 4, Drawer 4	09/02/97
33-6-4-28	U. S. Coast Guard	Cabinet 4, Drawer 4	10/15/02



FILE NO.	TITLE	LOCATION	FONSI/EBS DATE
<b>33-6-5</b>	<b>NASA EBSs</b>	<b>Cabinet 4, Drawer 7</b>	
33-6-5-1	Lease SPCCAP-2-93-004, Fac 1704	Cabinet 4, Drawer 7	03/01/94
33-6-5-2	Titan III Propellants Shop (Fac 36665)	Cabinet 4, Drawer 7	06/01/94
33-6-5-3	NASA Explosive Safe Area 60	Cabinet 4, Drawer 7	06/01/94
33-6-5-4	MRTB II	Cabinet 4, Drawer 7	Not in files
33-6-5-5	High Energy Radiological Fac (HERF)	Cabinet 4, Drawer 7	07/05/95
33-6-5-6	Get Away Special (GAS) Delta Spin Test Fac	Cabinet 4, Drawer 7	02/29/96
33-6-5-7	Hangar AM, SFA Update	Cabinet 4, Drawer 7	11/29/95
33-6-5-8	Hangar AO	Cabinet 4, Drawer 7	11/22/95
33-6-5-9	Fuel Farm #4	Cabinet 4, Drawer 7	11/13/98
33-6-5-10	Facilities 77800 and 80540	Cabinet 4, Drawer 7	01/27/03
<b>33-6-6</b>	<b>Downrange EBSs</b>	<b>Cabinet 4, Drawer 7</b>	
33-6-6-1	Ramey, Puerto Rico Closure	Cabinet 4, Drawer 7	11/01/88
33-6-6-2	Closure Parham Communications Annex	Cabinet 4, Drawer 7	10/01/93
33-6-6-3	Bahama Cays Closure/Grand Bahama AA	Cabinet 4, Drawer 2	08/01/92
33-6-6-4	High Frequency Radio Receiver Site, AAS	Cabinet 4, Drawer 7	09/01/95
33-6-6-5	Pretoria, South Africa	Cabinet 4, Drawer 7	06/16/95
33-6-6-6	Super LOKI Launch Pad AAS	Cabinet 4, Drawer 7	04/29/96
33-6-6-7	Ramey, Riding Stables lease	Cabinet 4, Drawer 7	06/24/99
33-6-6-8	Ramey, Arturo Bravo	Cabinet 4, Drawer 7	09/21/99
33-6-6-9	Close out of Army training at Ramey	Cabinet 4, Drawer 7	09/06/00
33-6-6-10	Leased Property Transfer, Antigua		
<b>33-6-7</b>	<b>Other EBSs/Waivers</b>	<b>Cabinet 4, Drawer 7</b>	
33-6-7-1	SMC Lease of AMPRO Bldg, Titusville	Cabinet 4, Drawer 7	03/01/94
33-6-7-2	45 MS Lease at Ti-CO Airport	Cabinet 4, Drawer 7	06/16/95
33-6-7-3	Phillips Lab MTA	Cabinet 4, Drawer 7	06/16/95
33-6-7-4	Portland Oregon Borsight Tower	Cabinet 4, Drawer 7	11/22/95
33-6-7-5	Rockledge Lease Termination (EBS)	Cabinet 4, Drawer 7	01/19/01
33-6-7-6	Rockledge Establishing Lease (EBS)	Cabinet 4, Drawer 7	01/19/01
33-6-7-7	Utilities Privatization	Cabinet 4, Drawer 7	Not in files
33-6-7-8	ACOE, Cocoa Beach IGOR	Cabinet 4, Drawer 7	09/06/00
33-6-7-9	Florida Gas, Malabar	Cabinet 4, Drawer 7	01/16/98



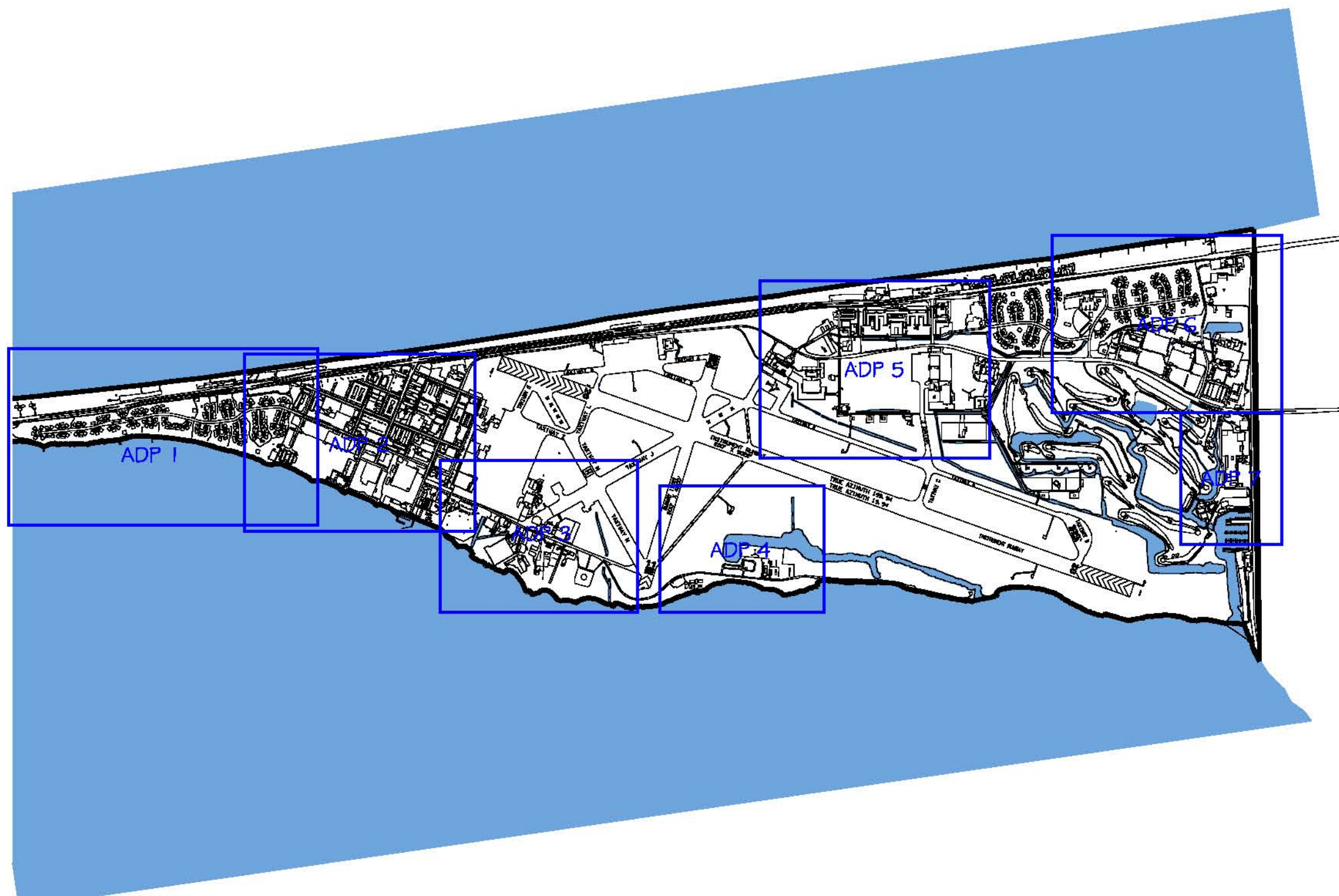


**APPENDIX B**

**AREA DEVELOPMENT PLANS**



## PATRICK AFB GENERAL PLAN EA

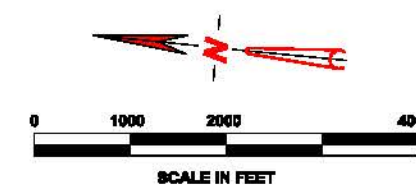


### LEGEND

Site	Description
ADP 1	North Beach Area
ADP 2	Main Base Area
ADP 3	River Industrial Area
ADP 4	Riverfront Recreation Area
ADP 5	AFTAC/Airfield Area
ADP 6	Community Center/Florida Air National Guard Area
ADP 7	Marina/Golf Course Area
ADP 8	Base-Wide Trail Network (ADP 8 is available on page 5-53)

### Map B-1

#### AREA DEVELOPMENT PLAN KEY





## AREA DEVELOPMENT PLANS

An Area Development Plan (ADP) is a conceptual diagram of a specific, small area within the Base. Each area is identifiable by a unique location, environmental character, or the specific activities and tasks that are conducted there. The ADPs are developed with distinct goals in mind for the future of the area.

Planning with an Area Development Plan involves analyzing the constraints and opportunities of an area, identifying future development potential, and proposing solutions in order to improve the area's aesthetics and organization. The importance of an ADP is to determine the location of new facilities in order to meet the growing and changing needs of the Base, the relocation of existing facilities to address land use incompatibilities, comply with airfield clearances, and better utilize on-base assets.

PAFB's experience with ADPs has shown the effectiveness of using the ADP-level of detail for planning and illustrating feasible and implementable projects.

This Section includes narrative and site plans addressing eight ADPs. Preparation of these ADPs has involved a collaborative process that included a wide variety of stakeholders. Coordinated meetings were held to discuss the needs and desires of various users in terms of operations and facilities. Individuals provided general and detailed input regarding the operations and layout of the areas. In addition to the above input, comments from an interview with Lieutenant Colonel Sable have been incorporated when possible. This interactive planning process was intended to ensure effective decision-making that results in efficient plan implementation.

Each of the eight ADPs is addressed by a narrative that explains the issues and improvement recommendations associated with each area. The ADPs are listed in order of their geographic location on the Base, generally following a north to south progression. See Map 5-3 for the location of all ADPs.



## **AREA DEVELOPMENT PLAN 1 NORTH BEACH/ PICNIC AREA**

### **AREA DESCRIPTION**

This area includes the coastal beach area at the northeast end of PAFB and the riverfront along the Banana River as well as the Family Housing Area in between. The beach area is east of State Road A1A along the coastline of the Atlantic Ocean. Base personnel as well as the general public use these outdoor recreational activities. It currently has a picnic pavilion, a rest room facility, a volleyball court, and access boardwalks to the beach (one of which is handicapped accessible). This highly used area has room for expansion and opportunities for additional facilities.

The Banana River borders the western edge of PAFB for the entire length of the Main Base. Along the river, most development has been set back from the water's edge which would allow room for a multi-use trail to be constructed at the river's edge.

The North Housing Area separates the beach and river areas. Direct access to the homes in this area from State Road A1A was formerly available via a gate that has since been closed. Although not typically used, the gate would remain for emergency or special use.

### **ISSUES**

- The beach and riverfront in this area are constrained by the Atlantic Ocean, State Road A1A, the Banana River and existing private housing.
- Beach erosion is a major problem in this area, as it is along the entire shoreline adjacent to PAFB. Recent demonstration of the facility damage caused by storms should serve as a warning that continued beach erosion and destruction would occur to the coast, and new facilities should be located at alternate locations away from the coast.
- Lack of landscaping detracts from the aesthetics of the housing area as viewed from the highway, and from the beach picnic area.
- The highly used picnic area is in need of expansion. The existing parking lot is too small and lacks definition and landscaping.
- This beach area has been the subject of conversation regarding potential development, with much discussion centering on the site constraints.



## **RECOMMENDATIONS**

The heavily used picnic and beach facilities within this area of the Base are valuable amenities for PAFB personnel as well as the general public. However, the facilities are in need of both expansion and protection. Additional amenities such as restrooms, showers, and picnic tables would enhance the beach facilities. Improvements should not overtake the area, and consideration must be given to the preservation of wildlife habitat. Safe access to and from these areas is a key consideration, due to their close proximity to State Road A1A.

- Retain the river and beach areas as major recreation assets for Base personnel.
- Add a picnic pavilion, restroom and shower facility, another sand volleyball court, and a parking lot in the area north of the existing beach picnic area. A services rental facility could also be provided for renting boogie boards, volleyball equipment, and other recreational equipment to entitled personnel.
- Provide landscaping improvements along State Road A1A within existing and new parking lots, to screen the highway from the beach picnic area users and improve site aesthetics.
- Construct additional boardwalks for improved beach access and to support planned site improvements. These boardwalks can also be used for viewing launches from Cape Canaveral Air Force Station and the Kennedy Space Center.
- Construct three Visiting Officer Quarters (VOQ) townhouse units between the northern end of the beach picnic area and the existing VOQs, accessed by existing driveway connecting to State Road A1A.
- Eliminate this site from consideration for a multi-purpose lodging facility development. The site's constraints, combined with the Air Force's role as custodian of environmental resources, are inconsistent with the proposed construction of a hotel and conference facility in this area.
- Complete the base-wide multi-use trail planned along the Banana River, extending through the Main Base Area and around the perimeter of the Base. Further details of the Multi-Use Trail Network are discussed in ADP 8.
- A building specific demolition list associated with the recommendations of this Area Development Plan is contained in Appendix D of the General Plan.



## AREA DEVELOPMENT PLAN 2

### MAIN BASE AREA

#### **AREA DESCRIPTION**

The Main Base Area is the principal command and control area of the installation. Located west of the Main Gate, it occupies an area that also serves as the primary entrance to the Installation. The Main Base Area incorporates nearly every type of land use present at PAFB, and encompasses all of the area between the Banana River and State Road A1A, from the north side of Atlas Avenue to the southern edge of the North Housing area.

The majority of PAFB's command and administrative functions and all of its dormitories are sited in the Main Base Area, along with several recreational facilities. A sizable portion of this area is located in the north Clear Zone of Runway 02/20. A significant amount of development is planned and underway in the Main Base Area to accommodate demolitions and relocations that are required to remove several of these facilities from the Clear Zone. The majority of the development is occurring on vacant land near the Banana River, where outdated, 1940s-era facilities were previously located and have since been demolished. A significant feature of the planned development in this area is the Community Park, which would include a running track; tennis, basketball, and volleyball courts; and a football/soccer field. This area would serve as a gathering place for Base residents and visitors to enjoy the river amenities and outdoor recreation QOL features of this "commons" area, also known as the Main Base Riverfront and the River Community Area.

#### **ISSUES**

- Many of the buildings in the Main Base Area are in the northern Clear Zone, with several near the Clear Zone centerline. These facilities would eventually need to be demolished, and the functions they house must be relocated.
- Due to constraints on the amount of available vacant land, and limits on funding, demolition and relocation of functions that are currently within the Clear Zone would be phased. Those facilities that are closest to the runway should be relocated first, with individual buildings being moved based upon the priority established by the Base Facilities Board.
- Situated at the main entry point to PAFB, this area is highly visible. The main axis of Jupiter Street should have a prominent focal point, such as a framed view, or prominent architectural feature, before opening upon the Banana River.





- Vehicles using the Main Entrance Gate to enter PAFB experience delays during commute hours due to badge check-in requirements. As a result, traffic regularly backs up onto State Road A1A, especially traffic coming from the south, turning left into the Installation. Several alternate locations for the Main Gate were evaluated, while recognizing the constraints of structures (including signal lights) in the Clear Zone and the requirement for approval by the State of Florida for any new points of access to the highway.
- The remaining industrial functions in the Riverfront Area lack aesthetic attributes such as landscaping and architectural enhancements to the buildings.
- Industrial uses involving an inordinate amount of large equipment, truck traffic, and parked/stored vehicles contribute to an unattractive, disorganized, and cluttered appearance.
- Large expanses of asphalt and concrete in the area are unnecessary and not fully used. Some of the facilities are unoccupied and unmaintained. Quality of Life amenities and facilities, which capitalize on the unique asset of the riverfront, are currently lacking.
- Additional lodging and conference facilities are needed to reduce the dependence on off-base facilities.

## **RECOMMENDATIONS**

The planned improvements to this area have several objectives:

- a) Enhancing the appearance of the installation upon entry from the Main Gate;
- b) Capitalizing on the unique riverfront environment;
- c) Renovating the asphalt/industrial areas;
- d) Removing facilities from the Clear Zone;
- e) Accommodating Anti-Terrorism/Force Protection (AT/FP); and
- f) Enhancing circulation.

Recommendations to accomplish these goals include: the installation of landscaping and aesthetic improvements, and developing a number of sites near the Banana River. These appear in greater detail below.

- Revise major road system to adjust traffic flow and accommodate required building setbacks for AT/FP requirements.
- Relocate the remaining industrial-related facilities out of the Main Base Riverfront Area in order to continue relocation of functions from the Clear Zone.





- Relocate appropriate functions that are presently situated in the Clear Zone and demolish the vacated buildings (Security Forces, DEOMI, etc).
- Refer to the separate AT/FP document for specific options to meet force protection requirements.
- Redesignate the vacated land in the Clear Zone as Open Space land use.
- Design and phase construction of new facilities to replace Visiting Officers Quarters (404), Gymnasium, Racquetball Courts, and the Health & Wellness Center, which are currently located in the Clear Zone.
- Use landscaping, trees and an additional pavilion to create a focal point to terminate and enhance the axis from the Main Gate along Jupiter Street.
- Change the land use and visual character of the riverfront area from Industrial to Community, using the *PAFB Facilities Excellence Plan* (FEP) for design of new facilities.
- Continue the current, ongoing removal of excess concrete and asphalt from this area, and replace with landscaping and site features that are consistent with the Base FEP.
- One of the key elements of this area's improvements, the Base-Wide Trail Network would connect the River Community Area with North Housing, the River Picnic Area, and Family Camp/recreation facilities further south. It would provide greater access along the Banana River and create the opportunity for recreational and fitness activities, as detailed in ADP 8, Base-Wide Trail Network.
- Provide Open Space with a "commons" area—a place for people to gather for recreation, relaxation, food, and conversation. Encourage pedestrian-oriented community facilities within the commons area, separated from vehicular circulation.
- Continue the ongoing construction of quality riverfront improvements in the commons area as demonstrated by the first phase of pavilion and landscaping amenities. Facilities and improvements to be created for the new commons area should include:
  1. A Community Park that would become the focal point for people entering the Base's Main Gate and traveling westward along Jupiter Street
  2. Additional picnic pavilions associated with the park
  3. Tennis, volleyball, and basketball courts
  4. New Visitor's Quarter
  5. Dormitories
  6. Bowling Center
  7. Gymnasium, Fitness/Wellness facility
  8. Health and Wellness Center
  9. Racquetball facility



- Recommendations for building demolition associated with this Area Development Plan are contained in Appendix D of the General Plan.



## **AREA DEVELOPMENT PLAN 3**

### **RIVER INDUSTRIAL AREA**

#### **AREA DESCRIPTION**

This area is located just south of the Main Base Area, and includes the Rescue Road corridor as well as a portion of Taxiway "J" and its associated operations. As one of the main industrial areas on-base, the River Industrial Area contains several storage and maintenance facilities. Among these are the Fuel Farm, several buildings housing the 920th Rescue Wing Maintenance functions, Squadron Operations and Aircraft Maintenance, and the CE Storage Compound.

#### **ISSUES**

- This area is physically constrained by the Banana River, the Airfield, the Main Base Area, and the River Recreation Area. There limited area for expansion; however, there is some vacant land, that is earmarked for new and relocated facilities.
- Rescue Road lacks a defined edge along the North Parking Apron, causing traffic safety concerns.
- Industrial facilities in this area are situated near the river, with no buffer between the built and natural environment. With the construction of the multi-use trail along the Banana River, unattractive aspects of the industrial area would be visible to trail users.
- The lack of landscaping and haphazard development of facilities in this area contributes to an overall cluttered, unorganized and unattractive appearance.
- The 920th Rescue Wing needs space for facilities to create a consolidated Wing complex and allow 920th activities to be relocated from other areas on base.

#### **RECOMMENDATIONS**

Several improvements are proposed for this area, emphasizing aesthetic and safety development. The design proposals below are intended to help unify the diverse uses in the area, define functional areas, and buffer unsightly views or incompatible land uses.

- Continue the multi-use trail through this area along the Banana River, connecting the Main Base to River Recreation Area.
- Establish a greenspace and landscaped buffer between the Industrial Area and the River Recreation Area.



- Complete a new 920th Rescue Wing Complex. Please refer to the 920th Rescue Wing ADP under development for more detail.
- Separate Rescue Road from the North Parking Apron with a defined roadway edge (e.g. raised curb, and landscaped island) so general traffic does not stray onto the apron. Provide a wall to increase visual and physical security.
- Install landscaping enhancements along Rescue Road through the River Industrial Area, to help define the roadway and buffer views of the existing industrial facilities.
- Reorganize and enhance the Civil Engineer Contractor Storage Area in the short term, to accommodate future facility consolidation and aesthetic improvements.
- Relocate base-wide BCE functions to a consolidated Civil Engineering Complex near the river, south of the 920th Rescue Group Complex.
- Relocate the LOX facilities and Fuel Fleet parking to the east side of Rescue Road.
- Relocate base-wide trail system segments from Rescue Road to the river concurrently with planned development projects adjacent to the riverfront.
- Provide a storage facility for the Pararescue Jumper/Combat Rescue Officer School at the far south end of the area.
- Provide comprehensive and coordinated storm water retention facilities (dry and wet) throughout the area.
- A building specific demolition list associated with the recommendations of this Area Development Plan is contained in Appendix D of the General Plan.



## **AREA DEVELOPMENT PLAN 4**

### **RIVERFRONT RECREATION AREA**

#### **AREA DESCRIPTION**

The Riverfront Recreation Area includes the Chevron Park and Family Camping ("Fam Camp") areas and is located to the south of the River Industrial Area, west of the airfield, and adjacent to the Banana River.

This area is a major asset for the Base, because Chevron Park and the Fam Camp are located on a beautiful section of the Banana River. Active and retired military personnel, authorized civilians, and their family members currently enjoy the amenities within this area.

#### **ISSUES**

- Fam Camp camping facilities are continually in high demand, with campers commonly being placed on a waiting list for campsites. When the Fam Camp cannot accommodate the number of users, nearby picnic areas are used for overflow camping.
- The Fam Camp facilities cannot accommodate the peak season demand. Campsites are densely situated, so that despite parking space numbering, vehicle parking can become haphazard when the camp is fully occupied. The result is confusing traffic flow, traffic congestion, and a disorderly appearance.
- There is an inadequate number of picnic facilities in this area to serve the groups desiring to use the pavilion.
- The area is constrained by the Airfield Clear Zone, Shotgun and Rifle Ranges. These safety zones, the Hot Cargo Q-D arc, and an IRP site just south of the Fam Camp limit the expansion potential of camping facilities.
- Limited landscaping and tree cover, combined with the dense campsites, contributes to a lack of visual aesthetics.

#### **RECOMMENDATIONS**

The expansion of camping and picnicking facilities along the riverfront is recommended to allow greater enjoyment by a variety of users of the unique atmosphere created by this riverside location. Expansion, however, should be carefully planned to ensure the facility is attractive, efficient and safe.



- Provide additional camping facilities in the Fam Camp, including Recreational Vehicle (RV) parking slabs. Consult the existing PAFB Fam Camp Expansion Plan, and utilize careful planning to address space and use compatibility issues.
- Develop an extensive landscaping enhancement plan to improve area aesthetics and to screen views of the industrial development. Install landscaping along Rescue Road and between the airfield and picnic areas.
- Develop a site management plan to define future development, and a reference to established site carrying capacities.
- Provide improved day-use and recreation opportunities such as more parking and an additional restroom facility. Add a Morale, Welfare and Recreation (MWR) campground check-in and equipment rental facility for rental of sports/recreational equipment.
- Construct individual pocket parks along the trail and the Banana River. These parks should include picnic tables and pavilions and in some cases, with associated limited parking. They should provide access to the river for fishing and low impact activities such as canoeing or launching inflatable rafts. The design of the pocket park sites should follow FEP standards for “single family unit” oriented recreation. The following sites should be considered for pocket parks:
  1. “River Peninsula Park” (concrete disposal area), a popular site for fishing. This site could accommodate approximately ten parking spaces, several individual covered picnic tables, and access to the river for fishing.
  2. “Fishing Lagoon Park”, a potential site for lagoon fishing. Site enhancements should include approximately ten parking spaces, and limited water access improvements, such as a trail or fishing platform.
  3. “South Peninsula Park”, a heavily used site at the terminus of the riverside trail. Proposed enhancements include approximately 15 parking spaces, 5 picnic pavilions, water access trails, and fishing piers or platforms.
- Design site plan for new Firing Range facility that addresses site constraints.
- Remove closed taxiway.
- Construct the multi-use trail along the riverbank and Rescue Road, adding pocket parks where available land exists. Use appropriate landscaping and buffers where needed to screen views of the industrial development.
- Recommendations for building demolition associated with the Riverfront Recreation Area are contained in Appendix D of the General Plan.





## AREA DEVELOPMENT PLAN 5

### AFTAC/AIRFIELD AREA

#### **AREA DESCRIPTION**

This area is located generally in the east-central portion of PAFB, east of the South Patrick Industrial/Airfield area and just north of the Central Housing area. The Air Force Technical Applications Center (AFTAC) occupies a large portion of this area and is bound on the east by State Road A1A and on the west by South Patrick Drive. The Department of State facilities are located within this area, on the west side of South Patrick Drive.

This area also includes a portion of the south beach area, on the opposite side of State Road A1A, stretching from north of the Non-Commissioned Officers (NCO) Club, to the site of the recently demolished Temporary Lodging Facilities. Base personnel that are currently in the facilities within the Clear Zone would be relocated into the existing DEOMI and Security Forces facilities.

#### **ISSUES**

- This site's major physical constraints include the boundary created by State Highway A1A, South Patrick Drive, and existing AFTAC facilities. In addition, a small portion is within the 100-year floodplain.
- The AFTAC building is oriented toward State Road A1A, and lacks a west-facing entrance and building identification from within PAFB.
- South Patrick Drive, the Base's main north/south arterial, provides access to AFTAC via one lane in either direction along this segment. This section of road handles the majority of the Base's north/south traffic, and planned construction of industrial and aircraft operations facilities along the northern two-lane portion of this arterial would increase traffic flow, and exacerbate an already busy traffic situation.
- The NCO Club along the beach experiences extreme corrosion and is in need of repair.
- Force Protection requirements would necessitate additional building setbacks and parking/drive aisle reconfiguration.



## **RECOMMENDATIONS**

Due to its location between two major roadways, the AFTAC facility is highly visible. However, the building's appearance from State Road A1A is unattractive, and the west side is visually disorganized. Multiple wings and building additions create confusion with regard to entrances and functions. The proposal for this area focuses on improving AFTAC AT/FP, improving the functionality and aesthetics of the west side of the AFTAC building, and providing development areas between South Patrick Drive and the Airfield.

- A building specific demolition list associated with the recommendations of this AFTAC/Airfield ADP is contained in Appendix D of the General Plan
- Widen South Patrick Drive to a 4-lane road in this area for improved traffic flow. A center turn-lane should be utilized where intersections occur, with a landscaped island utilized in the remaining areas.
- Install signage and curbs along this roadway to avoid unsafe traffic movements in the vicinity of the Airfield. Use landscape berms and swales to provide secure separation and control access to airfield areas from the roadway.
- Develop a new AFTAC facility on the west side of South Patrick Drive.
- Expand the parking, circulation, and access to the existing AFTAC facility.
- Demolish the warehouse directly to the west of the main AFTAC structure.
- Develop a long-term plan for reuse of the AFTAC facility if the AFTAC functions are relocated. For example, each wing of the building might have a separate entrance and be occupied by different organizations.
- Develop a new Security Forces facility and a Fire Station on the west side of South Patrick Drive, provide parking, controlled access, and Force Protection setbacks.
- Construct a DOS warehouse, outside storage, and apron facilities along the west side of South Patrick Drive, south of Buildings 985 and 986.
- Consolidate DOS administration functions into future vacated space in the AFTAC building, freeing up warehouse space in two separate hangars currently occupied by DOS.
- Improve the aesthetics of the area by providing landscape enhancements along South Patrick Drive, and screening all mechanical equipment compounds with walls or landscaping.
- Utilize the vacated CE storage yards, on the site north of the AFTAC facilities, for a new Transportation Complex.



- Discourage new construction along the beach to avoid facility and equipment corrosion, preserve the limited open space along the ocean front, and restore the coastal areas to their natural state.
- Enhance or restore dunes, which provide storm surge protection.
- Install restoration plantings and boardwalks along the beach to protect natural habitat. Plantings such as Dune Oaks and other native plant species are recommended, to provide a buffer area between roads/parking lots and the beach.



## AREA DEVELOPMENT PLAN 6

### COMMUNITY CENTER/FLORIDA AIR NATIONAL GUARD AREA

#### **AREA DESCRIPTION**

The Community Center/Florida Air National Guard (FLANG) Area is located in the southeast corner of the Base, south of the Central Housing Area and bounded on the west by South Patrick Drive, on the east by State Road A1A, and the south by Pineda Expressway.

This area houses several different functions as follows:

- Florida Air National Guard
- Security Forces dog kennel and mobility warehouse
- Base Exchange (BX)
- Commissary
- Satellite Pharmacy
- Burger King
- Medical Clinic
- Dental Clinic
- Air Rescue Medical Training Facility
- Two out-patient clinics

There are also areas, currently designated as Open Space, which have been reserved for future Base facility needs and/or interim facilities.

In addition, this area includes a portion of the coastline, which extends south to Pineda Expressway and the southern boundary of PAFB. Although undeveloped, the beach is an attractive and popular location for recreational activities.

#### **ISSUES**

- Traffic generated by the highly used functions in this area creates a number of congestion and circulation problems.
- Aside from the property used by the FLANG, there is very little space available for use by other organizations in this area.
- The layout of parking lots and roads results in entrances, exits, drive aisles, and service roadways that are inefficient due to congestion, capacity, and the lack of definitive, clear directional signage.



- Drive-through service windows at the Burger King restaurant and the pharmacy increase the level of traffic, contributing to circulation problems, creating confusion and potential safety issues.
- Existing development surrounding the area physically constrains the site, leaving little or no room for expansion to serve parking and service requirements for this area.
- The Central Housing Area faces the loading docks of the Commissary and the BX, both of which provide an unattractive backdrop.
- Due to the Quality of Life amenities offered at PAFB, and the high regional population of military retirees, community-serving commercial facilities are in high demand. To provide greater access to medical and commercial services, an alternate location for the Installation's South Gate has been discussed.

## **RECOMMENDATIONS**

The available land in this area provides opportunities for additional community service and community commercial functions. However, traffic circulation changes due to Force Protection setback requirements may affect available sites. Projects are under design to revise the BX/Commissary parking lot to accommodate these setbacks.

With the Installation's objective of providing Quality of Life amenities to base personnel, the proposal for this area emphasizes increasing the range, efficiency, and appearance of the services provided. Road, pedestrian, and parking improvements are recommended, along with extensive landscaping to provide visual accents, define circulation patterns and unify the Commercial and Medical centers.

- Develop a traffic management plan, including the following recommended improvements:
  1. Widen South Patrick Drive, with provisions for turn-lanes
  2. Install a signal light at the new intersection between South Patrick Drive and the realigned Mace Road
  3. Provide additional painting and curbing along the parking lot drive aisles and service roads to better define these areas
  4. Reconfigure and revegetate the parking lots
  5. Consider a connection between the Central Housing Area and Mace Road east of the Community Center and Medical/Dental Area, to allow residents direct access and reduce traffic on South Patrick Drive



- Make improvements to the Service Station on South Patrick Road by expanding the pavement area to increase the number of parking spaces and facilitate turning movements.
- Evaluate the medical clinics space problem on a regular basis. Several satellite Medical facilities designed around a courtyard plaza have been planned to the east of the Medical Clinic to solve the immediate need for more space. These facilities may temporarily address the lack of space in the Medical Clinic. An expansion has been considered for a long-term solution to the Medical Clinic's space problem.
- Continue enhancing the efficiency of community-serving facilities, such as the ATM and car wash. Locations of and access to these services should be carefully planned so as not to exacerbate traffic circulation and congestion problems.
- Construct six new SOQ and one GOQ unit along South Patrick Drive across from the Community Center.
- Add a bicycle/pedestrian connection from the Community Center to the Central Housing Area, linked to an internal corridor between the existing BX and Commissary. This connection would encourage residents from Central Housing to use alternatives to their cars to reach the Community Center that, in turn, would lighten the traffic load on South Patrick Drive. Bicycle racks should also be provided within the Community Center Area.
- Install landscaping along South Patrick Drive and the realigned Mace Road to enhance the parking lots in these areas. Use landscaping or other opaque barriers to screen the back of buildings and service areas from traffic on Pineda Expressway and other areas of the Base.
- Install landscaping and architectural enhancements within the Medical/Dental Area and the Community Center to break up the mass of the buildings and parking areas and improve the aesthetics of the area in general.
- Construct a tire store north of the BX.
- Relocate the Satellite Pharmacy to the open area southeast of the Commissary.
- Construct a new Child Development Center west of the vacated elementary school in Central Housing.
- Restore and enhance the dunes and landscaping between State Road A1A and the beach.
- Install landscaping adjacent to the FLANG area along State Road A1A and Pineda Expressway to screen views of the facility from the adjacent roadways, help define the PAFB boundary, and create a positive public image for the Base.





- Install restoration plantings and boardwalks along the beach to protect natural habitat. Plantings such as Dune Oaks and other native plant species are recommended, to provide a buffer area between roads/parking lots and the beach. Boardwalks should be installed to limit access to beaches.
- Construct a linear park path with family-use picnic pavilions.
- A demolition list associated with the recommendations of this ADP is contained in Appendix D of the General Plan.



## AREA DEVELOPMENT PLAN 7

### MARINA/GOLF COURSE AREA

#### **AREA DESCRIPTION**

This area is located in the southwest corner of the Base and is bounded by South Patrick Drive to the east, the Pineda Expressway to the south, and the Banana River to the west.

This area is largely built out and has little room for future expansion without major site modifications. The main functions in this area are the Golf Course Clubhouse, an 18-hole Golf Course, and the Marina Club with both wet and dry dock storage. The area also supports the services warehouses and the Base's South Power Substation.

#### **ISSUES**

- Several recreational Quality-of-Life (QoL) uses exist in this area, including boating and golfing, which are highly valued by many Base personnel as well as military retirees in the region.
- There is a lack of well-defined vehicular traffic patterns and parking areas near the Golf Club. The site is also clearly deficient in the number of parking stalls. This issue would be exacerbated during construction of the new Golf Course Clubhouse.
- Entrances to the Marina and Golf Course Clubhouses are visually obstructed, and the inefficient parking lot layout adds to the confusion upon arrival.
- Due to the Marina's location within the Clear Zone, a proposed expansion project required an airfield waiver. The waiver limits the scope of Marina development, including the number of slips, elimination of overnight camping on boats, relocation of tall-masted boats out of and/or away from the Clear Zone, limiting vegetation enhancements to low growing shrubs, and relocation of the impacted dry lot storage facilities. The approved waiver, listing its associated constraints, is on file in the CE office.
- The existing Marina Club facility currently is oriented away from the parking area and Golf Course, with its mechanical systems adjacent to the parking lot. The fence that screens the building's mechanical system creates a visual barrier, and an uninviting view of the facility's entrance area.
- Due to storm water retention requirements some developable parcels must remain vacant, ultimately placing an additional limitation on available land.



## **RECOMMENDATIONS**

This recreation-oriented area of the Base offers high-value QoL uses. Proposals for this area include improving the parking lot circulation, defining the entrance to the Marina, and buffering the asphalt, fences, and concrete walls with landscaping.

- Provide parking improvements in the large grassed areas east of the Marina including curbing, plantings islands, and additional parking stalls that can be utilized as part of the future development plan. This parking in the grassy area can be built before the rest of the project to temporarily help with the parking problems.
- Develop the Marina expansion project via programmed guidelines and per granted airfield waiver restrictions, including construction of an attractive and inviting entrance from its adjacent parking lot.
- Develop dry boat storage area in the former sewer plant location to provide for Clear Zone removal of boats and storage sheds.
- Develop the revised site circulation scheme for the Marina and Golf Course facilities to provide sufficient parking, improved access and improved facility aesthetics.
- Continue the bicycle path through the area to connect with the existing trail system on the east side of the Base.
- Ensure that storm water retention requirements are addressed and that open space land provides adequate retention.
- For additional detail regarding improvements within the Pineda Services Complex, please refer to the Pineda Services Complex Enhanced ADP.
- Buildings recommended for long-term demolition with this ADP are contained in Appendix D of the General Plan.



## **AREA DEVELOPMENT PLAN 8**

### **BASE-WIDE TRAIL NETWORK**

#### **AREA DESCRIPTION**

The Installation's water frontage is a unique and underutilized resource capable of contributing to the Quality of Life (QoL) for base personnel. Planned improvements along the Banana River include the riverfront path, the first phase of which is currently under construction. The Base-Wide Trail Network is a multi-use trail that accommodates pedestrians, bicycles, in-line skaters, strollers, and other recreational activities for the population at PAFB. The goal is to connect the current trails on the east side of the Base to a network accessing all areas of the Base. This network would provide an eight-mile long continuous path around the Base. The Trail Network project specifically provides access to the community recreation amenities planned along the riverfront, which, when completed, would provide an atmosphere unmatched on any Air Force Installation, and significantly enhance the QoL on-base.

#### **ISSUES**

- The Banana River area is natural resource that is currently under-utilized.
- Most of the areas adjacent to the river are not maintained, nor easily accessible. Several points on base that interface with the river are adjacent to unscreened industrial areas.
- There are several waterways near the Main Base Area that would need to be bridged if the Trail Network is to continue to the east side of the Base and link up with the existing trail system.

#### **RECOMMENDATIONS**

The Base-Wide Trail Network involves a goal of providing a recreational, multi-use path for PAFB personnel to access and enjoy all areas of the Base. The trail is intended to run along the entire length of the Banana River (with the exception of the southern clear zone area), through the Main Base Area, and link with the existing perimeter path on the east side of the installation. Ideally, the route would be constructed with a continuous paved surface to allow enjoyment by multiple users.



- Create a landscaped trail corridor that would provide for scenic and aesthetic enjoyment, as well as a landscaped buffer to screen unsightly areas from the trail users and ensure an appropriate public image to river travelers.
- Construct a Trail Network consisting of an eight-foot wide concrete path along the river south of the Main Base Area to the northern boundary of the North Housing Area.
- Route the eight-foot path around the electrical equipment just south of the North Housing Area. As an alternate route, construct a bridge over the drainage culvert, alongside the river, at the interface between the North Housing Area and the Main Base Area.
- Construct a 12-foot wide concrete path, with portions covered with pavers, along the sea wall in the Main Base “Commons” Area. Use bollards to control vehicle access.
- Continue the path through the Main Base Area via Atlas or Juniper Drive, connecting to the existing east-side path and beach areas, with signage marking the route.
- Construct an eight foot wide concrete path from the Boathouse, through the River Industrial Area, and on through the Chevron Park and Fam Camp areas, along Rescue Road. Improve the existing gravel road south of the Fam Camp area to an asphalt surface to support vehicular, pedestrian, and bicycle access to the river and pocket parks.
- Improve the path in the Community Center area, with signage, a wider path, and bicycle racks.
- Promote the Main Base Community Park Area as a destination point, with access from the trail and several community-oriented facilities, such as the pavilion and docks, outdoor seating at the Airman’s Dining Hall, and access to the Boathouse.
- As industrial areas are relocated or renovated, incorporate a new trail along the river.
- Provide numerous benches and fishing docks alongside the trail segments adjacent to the river.



**APPENDIX C**

**REPRESENTATIVE ENVIRONMENTAL ASSESSMENT**



**ENVIRONMENTAL ASSESSMENT  
FOR THE  
FIRE/CRASH RESCUE STATION  
PATRICK AIR FORCE BASE, FLORIDA**

**May 2005**



**United States Department of the Air Force  
45th Civil Engineering Squadron (CES)  
Environmental Flight (CEV)  
Patrick Air Force Base, Florida**

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## **ACRONYMS AND ABBREVIATIONS**

µg	Microgram
45th CES	45th Civil Engineer Squadron
45th SW	45th Space Wing

### **A**

AAQS	Ambient Air Quality Standards
ACHP	Advisory Council on Historic Preservation
ACM	Asbestos Containing Material
ADP	Area Development Plan
AF	Air Force
AFB	Air Force Base
AFETR	Air Force Eastern Test Range
AFI	Air Force Instruction
AFMAN	Air Force Manual
AFMC	Air Force Material Command
AFMTC	Air Force Missile Test Center
AFPD	Air Force Policy Directive
AFS	AIR Force Station
AFSPC	Air Force Space Command
AFTAC	Air Force Technical Applications Center
AICUZ	Air Installation Compatible Use Zone
AMC	Air Mobility Command
AMSL	Above Mean Sea Level
AOC	Areas of Concern
APZ	Accident Potential Zone
APZ1	Accidental Potential Zone 1
APZ2	Accidental Potential Zone 2
ARG	Army Readiness Group
ARPA	Archeological Resources Protection Act
AST	Aboveground Storage Tanks
ATM	Asynchronous Transfer Mode
AVGAS	Aviation Gasoline

### **B**

BACT	Best Available Control Technique
BASH	Bird/Aircraft Strike Hazard
Bls	Below Land Surface



**BX** Base Exchange

**C**

**CA** California  
**CAA** Clean Air Act  
**CATEX** Categorical Exclusion  
**CCAFS** Cape Canaveral Air Force Station  
**CEQ** Council  
**CES** Civil Engineering Squadron  
**CEV** Civil Environmental Flight  
**CFR** Code of Federal Regulations  
**CIP** Capital Improvements Program  
**CO** Carbon Monoxide  
**CWA** Clean Water Act  
**CZ** Clear Zone

**D**

**dB** Decibel  
**dBA** Decibel A – A Weightless Logarithmic Scale  
**DEOMI** Defense Equal Opportunity Management Institute  
**DLA** Defense Logistics Agency  
**DNL** Day-Night Average Noise Level  
**DoD** Department of Defense  
**DOS** DOS  
**DRMO** Defense Reutilization and Marketing Office

**E**

**EA** Environmental Assessment  
**EIAP** Environmental Impact Analysis Process  
**EIS** Environmental Impact Statement  
**EO** Executive Order  
**EPF** Environmental Planning Function  
**ER** Eastern Range  
**ESA** Endangered Species Act  
**ESMC** Eastern Space and Missile Center  
**ETR** Eastern Test Range

**F**

**FAC** Florida Administrative Code  
**FB** Facilities Board



FDEP	Florida Department of Environmental Protection
FEMA	Federal Emergency Planning Agency
FIRM	Flood Insurance Rate Map
FLANG	Florida Air National Guard
FNAI	Florida Natural Area Inventory
FONPA	Finding of No Practical Alternative
FONSI	Finding of No Significant Impact
FP&L	Florida Power and Light
FWS	U. S. Fish and Wildlife Service

## **G**

gpcd	Gallons Per Capita Per Day
GPD	Gallons Per Day

## **H**

HAPS	Hazardous Air Pollutants
HF	High Frequency

## **I**

IRL	Indian River Lagoon
INRMP	Integrated Natural Resource Management Plan
IRP	Installation Restoration Program

## **J**

JDMTA	Jonathan Dickinson Missile Tracking Annex
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## **K**

KV	Kilovolt
kVA	Kilovolt-Amperes
KW	Kilowatts

## **M**

m <sup>3</sup>	Meters Cubed
MBTU	Million British Thermal Units
MC	Minor Construction
MFH	Military Family Housing
MGD	Millions of Gallons Per Day
MHW	Mean High Water
MILCON	MILCON
mW	Mega Watt



## **N**

NAAQS	National Ambient Air Quality Standards
NAF	NAF
NASA	National Aeronautics and Space Administration
NCO	Non Commissioned Officer
NEPA	National Environmental Policy Act
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NO <sub>2</sub>	Nitrogen Dioxide
NRHP	National Registry of Historical Places
NRMP	Natural Resources Management Plan

## **O**

OPLAN	Operations Plan
OSHA	Occupation Safety and Health Administration
O <sub>3</sub>	Ozone

## **P**

Patrick AFB	Patrick Air Force Base
Pb	Lead
PCB	Poly Chlorinated Biphenyl
PM <sub>10</sub>	Particulate Matter - 10 Microns
PM <sub>2.5</sub>	Particulate Matter - 2.5 Microns
PPM	Parts Per Million
PSIG	Pounds Per Square Inch Gage
PTE	Potential to Emit
PVC	Poly Vinyl Chloride

## **R**

RQW	Rescue Group Wing
RV	Recreational Vehicle

## **S**

SAP	Satellite Accumulation Plan
SF	Security Forces
SHPO	State Historic Preservation Office
SO <sub>2</sub>	Sulfur Dioxide
SR	State Road



SS Subsection  
SW Space Wing  
SWPPP Storm Water Pollution Prevention Plan

**T**  
tpy Tons Per Year

**U**  
U.S. United States  
UFC Ultra High Frequency  
URTD Upper Respiratory Tract Disease  
U.S.C. United States Code  
USEPA United State Environmental Protection Agency  
UST Underground Storage Tank  
UVF Ultra High Frequency

**V**  
VAQ Visiting Airmen Quarters  
VHF Very High Frequency  
VOQ Visiting Officers Quarters





## **1.0 PURPOSE OF AND NEED FOR PROPOSED ACTION**

### **1.1 INTRODUCTION**

#### **1.1.1 Background**

Patrick Air Force Base (PAFB) is located on a barrier island on the central east coast of Florida, south of the city of Cocoa Beach (see Map 1-1). The main base covers approximately 2002-acres and is bounded by the Atlantic Ocean on the east and the Banana River on the west (see Map 1-2). There is little topographic relief across Patrick AFB, with elevations from 0 to 13 feet above mean sea level (AMSL), and the highest elevation corresponding to sand dunes along the Atlantic Ocean (see Map 1-2). From the dunes, the site gently slopes northwest toward the Banana River shoreline. See Map 1-3 for a depiction of the Patrick AFB.

The U.S. Navy established the installation in 1940 as the Banana River Naval Air Station, which served as an active base for anti-submarine sea-patrol planes during World War II. After the installation's deactivation in 1947, it was transferred to the Air Force in 1948. The base was renamed Patrick Air Force Base in 1950 in honor of the chief of the U.S. Army Air Service from 1921 to 1927, Major General Mason M. Patrick. At this time the Air Force began developing the Eastern Test Range (ETR). From 1950 to present, the 45th Space Wing (45th SW), formerly the Eastern Space and Missile Center (ESMC), has been responsible for launch, test and support operations associated with cruise missile program; ballistic missiles; the Apollo and Space Shuttle programs; and the Delta, Atlas and Titan programs.

On October 1, 1990, Air Force Space Command (AFSPC) assumed responsibility for the USAA space launch operations, and on November 12, 1991, the ESMC was deactivated and the 45th SW was activated as a result of restructuring throughout the Air Force. The ETR has since been redesignated as the Eastern Range (ER) with the 14th Air Force at Vandenberg AFB, California, overseeing the 45th SW.

Currently the 45th SW provides mission-ready forces for the 14th Air Force and the U.S. Strategic Command to safely execute and maintain space lift operations and operate, maintain and secure the Eastern Range. It supports ballistic missile test launches, aircraft tests and other ballistic munitions evaluations. It also supports civil space launch facilities



and range instrumentation which provides for the nation's access to space and ballistic missile evaluation.

There are numerous mission partners who are tenant units at Patrick AFB. Among the largest are the Air Force Technical Applications Center (AFTAC), the Defense Equal Opportunity Management Institute (DEOMI), the Department of State (DOS), and the 920th Rescue Wing (920th RQW). The 920th RQW provides combat rescue, air support for manned space flight operations, and safety surveillance for sea security zones. It also provides humanitarian and disaster relief operations as directed. The 920th RQW employs almost 1,200 individuals. The DOS – Aviation Division provides support for aviation activities in Central and South America. While this group employs a small number (10 to 20) of personnel, its function is notable, and includes maintenance, logistics and operations support of aviation activities. The DEOMI is a joint-service field activity of the Department of Defense (DoD), and employs around 125 personnel. Its mission is to serve as the center for equal opportunity and human relations, and to translate increased awareness of issues into improved leadership. The AFTAC provides national authorities with technical measurements to monitor nuclear treaty compliance, and develops advanced monitoring technologies. This function employs a staff of about 700.

The 45 SW Fire/Rescue Squadron (45 CES/CEF) is tasked to protect life, property, and environment from natural and man-made emergencies on PAFB. This unit is currently based out of Facility 810 which is strategically located in a central area of the Base in close proximity to the airfield. Personnel can be called to support Cape Canaveral Air Force Station (CCAFS) and government facilities in South Housing/Pelican Coast in the event of an emergency.

### **1.1.2 General Plan**

The Patrick Air Force Base General Plan (Patrick AFB General Plan) is the culmination of the installation's comprehensive planning process that occurs in five-year cycles. It is a summary document that provides the 45th SW Commander and subordinate leaders a framework for making effective programming, design, construction, and resource management decisions. The Patrick AFB General Plan identifies the essential characteristics and capabilities of the base and assesses the potential for development, responding to AFSPC's commitment to preserve its assets and protect the environment. Furthermore, the Patrick AFB General Plan is an essential component of the base



development cycle, and it serves as the impetus for construction of required facilities. These facilities are used, maintained, and eventually demolished when repair costs are greater than new construction, potentially creating the need for replacement facilities.

### **1.1.3 PAFB General Plan and Maintenance Environmental Assessment**

The Patrick Air Force Base General Plan and Maintenance Environmental Assessment (General Plan EA), a companion document to the Patrick AFB General Plan, was created in conjunction with the General Plan. The General Plan EA is revised in five-year cycles. The General Plan EA is prepared in accordance with CFR 32 Part 989, *Environmental Impact Analysis Process*, which implements the tasks and procedures for the Air Force Environmental Impact Analysis Process (EIAP). The Air Force EIAP implements the procedural provisions of the National Environmental Policy Act (NEPA) of 1969, 42 United States Code (U.S.C.) Sections 4321 through 4347, the Council on Environmental Quality (CEQ), *Regulations for Implementing the Procedural Provisions of the NEPA*, 40 Code of Federal Regulations (CFR), Parts 1500 through 1508, 32 CFR 989, *Environmental Impact Analysis Process* and the Air Force Policy Directive 32-70, *Environmental Quality*.

The General Plan EA is an analysis of the potential consequences of implementing the proposed actions identified in the Patrick AFB General Plan, as well as, maintenance activities occurring on the base. The master planning process and related operations that occur at Patrick AFB are subject to continual change in response to a wide range of influencing factors. Therefore, the General Plan EA also includes programmatic elements designed to support the evaluation of environmental impacts relating to future actions and plans. This document is incorporated by reference within this Environmental Assessment.

## **1.2 Purpose and Need**

Currently PAFB has one substandard fire station. This fire station directly supports operational flying missions, augments fire protection function at CCAFS and provides emergency response to PAFB and surrounding communities. The existing facility was designed to accommodate smaller and less capable fire protection equipment and does not meet operational or quality of life requirements. The floor on the west side of vehicle bay, collapsed under the weight of a P-22 fire truck. Cracks in the slab-on-grade foundation and walls are common throughout the facility. Roofs and windows leak during rain storms. The heating and air conditioning system does not provide proper temperature control throughout the facility. There is no system to extract exhaust fumes from the fire truck creating air



quality health problems which is in violation of National Fire Protection Code and Occupational Safety Health Act. There is no storage for firefighting equipment; therefore, space in the stalls is being used as storage. The facility does not have a fire suppression system. In the past year, over \$120,000 worth of emergency repairs were required to keep the facility running.

The Proposed Action is to construct a new Fire/Crash Rescue Station which directly supports the 45 SW's operational mission and the routine mission of Air Force Space Command. The new Fire/Crash Rescue Station is required to protect small and large frame aircraft, support operations at CCAFS, respond to emergencies on PAFB and the South Housing area (located four miles South of PAFB). The location will allow direct access to the flight line, South Patrick Drive and State Road A1A. The new Fire/Crash Rescue Station will have drive through vehicle bays, storing fire-fighting vehicles, which are required for safety and to improve response time. In addition, the Proposed Action will provide 10.2 square meters of private living space per firefighter as well as storage and maintenance space for firefighting equipment, administrative space, dining area, exercise room, training room and alarm room. The Airfield/AFTAC Area Development Plan 5 in the General Plan addresses construction of a Fire/Crash Station.

### **1.3 Applicable Regulations and Compliance Procedures**

This EA was developed in accordance with the National Environmental Policy ACT of 1969 (NEPA) and implements regulations issued by the Council on Environmental Quality (CEQ) (40 CFR 1500-1508). Furthermore, the U.S. Air Force Policy Directive 32-70, *Environmental Quality* commits to improving the environmental standards applicable to the present operations, planning future activities to minimize environmental impacts, managing the irreplaceable natural and cultural resources it holds in public trust in a responsible manner and eliminating pollution causing activities wherever possible.

Air Force Instruction 32-7061, *The Environmental Impact Analysis Process*, identifies responsibilities, general compliance requirements, and procedures to protect and preserve the quality of the environment. It implements the Air Force EIAP and provides procedures for environmental impact analysis both within the United States and abroad. In addition to NEPA, there are other laws, regulations and Executive Orders (EOs) that serve as a framework for environmental analysis of this document. These are, but not limited to, the Endangered Species Act (ESA), Clean Air Act (CAA), Coastal Zone Management Act



(CZMA), Clean Water Act (CWA), the Magnuson-Stevens Fisheries Conservation and Management Act, EO 11514, *Protection and Enhancement of Environmental Quality*, EO 11988, Floodplain Management, EO 11990, *Protection of Wetlands*, EO 13112, Invasive Species, and EO 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition. A variety of other applicable Federal, state, and local laws and regulations that pertain to activities occurring on Patrick AFB would be identified in the environmental review process for each proposed action. Refer to Appendix D in the General Plan EA for a more specific regulatory list.

#### **1.4 Agencies Involved In Environmental Analysis**

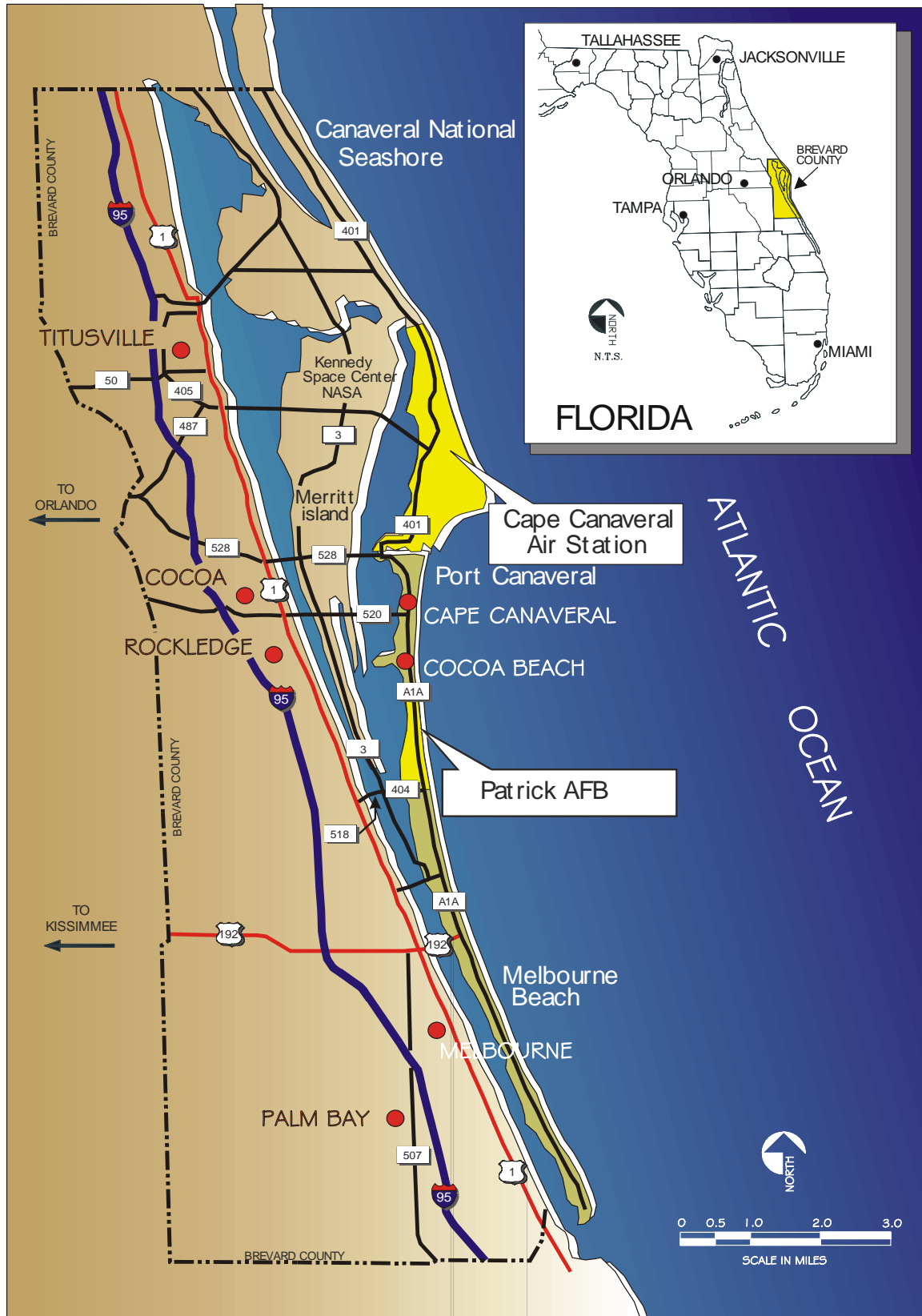
The Florida State Clearinghouse reviews Environmental Assessments for projects planned at Patrick AFB pursuant to Gubernatorial Executive Order 95-359; the Coastal Zone Management Act; 16 U.S.C. SS 1451-1464, as amended; and the National Environmental Policy Act, 42 U.S.C. SS 4321, 4331-4335, and 4341-4347. The Florida State Clearinghouse sends copies of the draft environmental assessments to applicable regulatory agencies for review and passes the review comments to Patrick AFB for resolution in the final environmental assessment.

#### **1.5 Public Involvement**

Public involvement takes place at the completion of this EA process. There was a 30-day comment period after the "Notice of Availability of the Programmatic Environmental Assessment for the General Plan and Maintenance of Patrick AFB" was published in the local newspaper. Any public comments are addressed and noted in the EA.



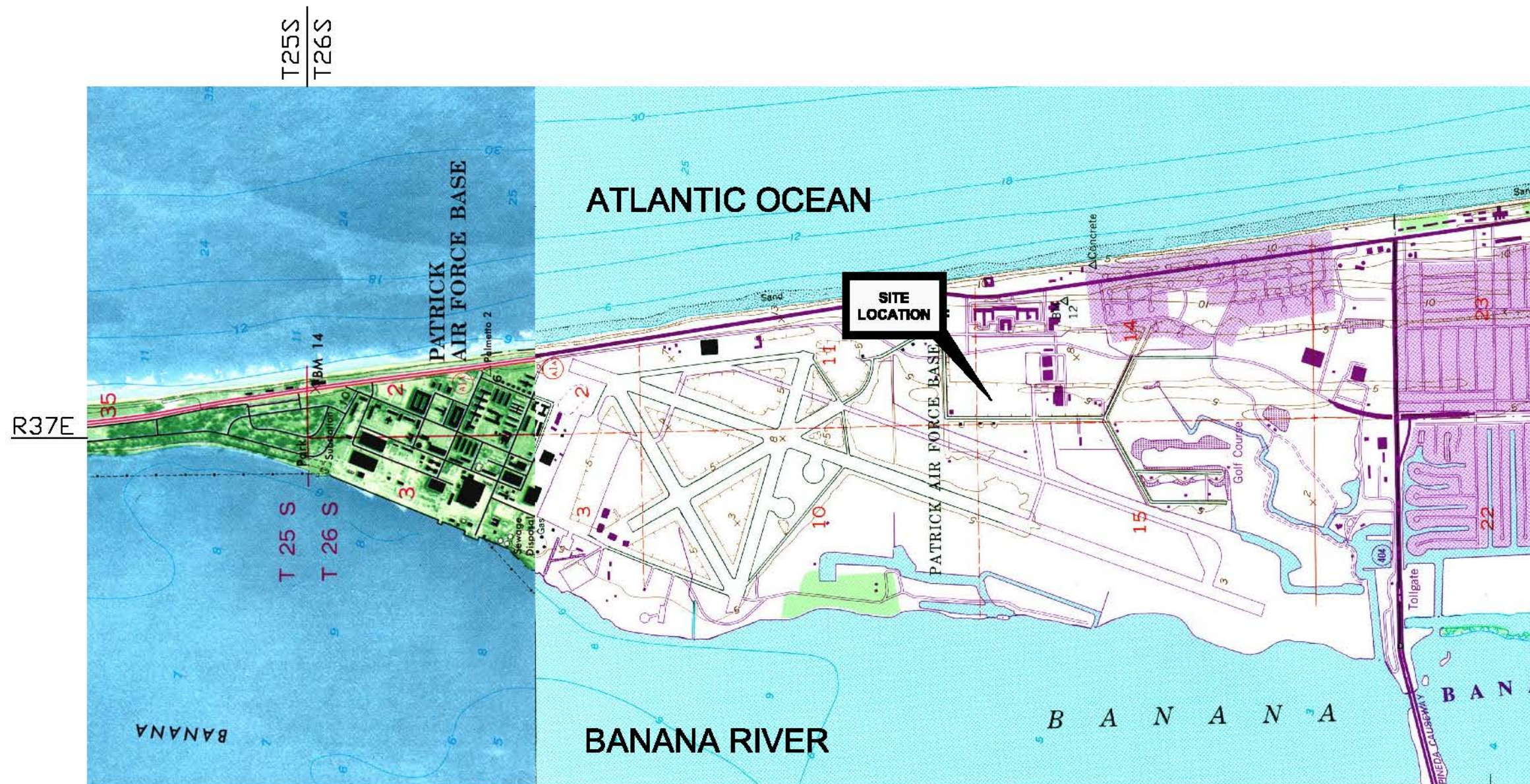
Map 1-1 Area Map







# PATRICK AFB FIRE /CRASH RESCUE STATION EA



## LEGEND

NOTE:  
SOURCE: U.S.G.S. 7.5 MINUTE TOPOGRAPHIC  
QUADRANGLES, TROPIC, AND COCOA BEACH  
FLORIDA, PHOTOREVISED 1988 AND 1976,  
RESPECTIVELY

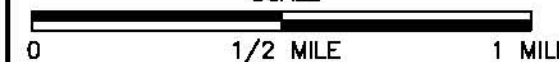
FLORIDA



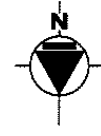
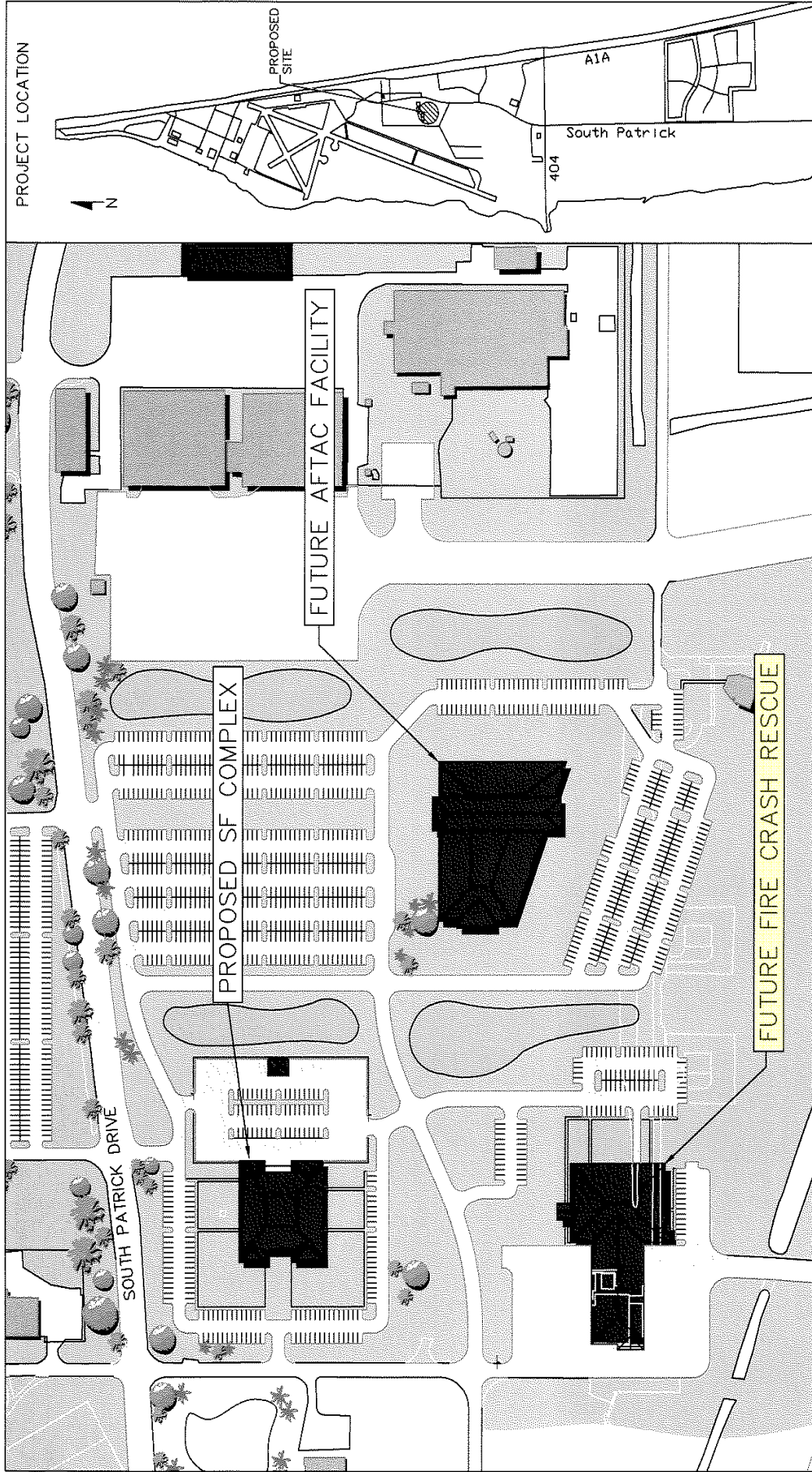
## Map 1-2 SITE LOCATION & TOPOGRAPHICAL MAP



SCALE







SCALE 1"=250'

## Map 1-3 Site Location



## **2.0 DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES**

### **2.1 Proposed Action**

The Proposed Action is located within Area Development Plan (ADP) 5 of the Patrick AFB General Plan. Appendix B of the General Plan EA shows the location and description of ADP 5. The Proposed Action is to construct a new Fire/Crash Rescue Station which directly supports the 45th Space Wing's operational mission and the routine mission of Air Force Space Command. The new Fire/Crash Rescue Station is required to protect small and large frame aircraft, support operations at Cape Canaveral Air Station, respond to emergencies on Patrick AFB and the South Housing area (located four miles South of Patrick AFB). The location will allow direct access to the flight line, South Patrick Drive and State Road A1A. The new Fire/Crash Rescue Station will have drive through vehicle bays, storing fire-fighting vehicles, which are required for safety and to improve response time. In addition, the Proposed Action will provide 10.2 square meters of private living space per firefighter as well as storage and maintenance space for firefighting equipment, administrative space, dining area, exercise room, training room and alarm room.

### **2.2 Alternatives Considered**

#### **2.2.1 Demolition and Rebuild on Existing Site**

The first alternative considered was the demolition of the existing Fire/Rescue Station (Facility 810) and rebuilding of the new proposed Fire/Rescue Station on the same site. This alternative was not considered feasible because the square footage of the Proposed Action would be increased in the new design and would conflict with airfield clearance issues along the flight line. This alternative was considered, but eliminated from further consideration due to conflict with clearance issues along the flight line.

#### **2.2.2 Alternative Site 1**

The second alternative considered was building the new proposed Fire/Rescue Station north of AFTAC and Control Road near the CE Maintenance/Storage Area. This location was deemed inadequate because of space limitations and less ease traversing to the flight line. This alternative was considered, but eliminated from further consideration. As a result, locations on the west side of S. Patrick Drive were then selected instead as the desired site.



### **2.2.3 Alternative Site 2**

The third alternative considered was building the new proposed Fire/Rescue Station at the corner of Control Road and South Patrick Drive. This location was determined based on fire\spill response time for the flight line and access to South Patrick Drive and State Road A1A. This location became the preferred site for the proposed Security Force Complex. This alternative site was considered, but eliminated from further consideration due to the overriding selection of the site for the Security Force Complex.

### **2.2.4 No-Action Alternative**

The no-action alternative would be to maintain the existing substandard facilities, infrastructure and grounds at the existing Fire/Crash Rescue Station. This fire station will continue to directly support operational flying missions, augment fire protection function at Cape Canaveral Air Station and provide emergency response to Patrick AFB and surrounding communities. However, the existing facility was designed to accommodate smaller and less capable fire protection equipment and does not meet operational or quality of life requirements. Cracks in the slab-on-grade foundation and walls are common throughout the facility. In the past year, over \$120,000 worth of emergency repairs were required to keep the facility running. This is not a preferred alternative due to the high maintenance costs that may be higher than simply constructing a new and effective Station.



### **3.0 AFFECTED ENVIRONMENT**

#### **3.1 Introduction**

The description of the environmental setting also referred to, as baseline, existing, background or affected environment, is an integral part of an environmental assessment. There are two major purposes for describing the environmental setting of the proposed action in an impact study, namely (1) to assess existing environmental quality, as well as the environmental impacts of the alternatives being evaluated, including the no-action or no project alternative, and (2) to identify environmentally significant factors or geographical areas that could preclude the development of a given alternative or alternatives. Additional purposes of describing the setting include providing sufficient information so that decision makers and reviewers unfamiliar with the general location can develop an understanding of the project need, as well as the environmental characteristics of the study area, and to serve as a basis for establishing project need.

Refer to the General Plan EA for baseline data. The following areas of the affected environment have been addressed in Section 3.0 of the main body of the General Plan EA:

- Air Quality,
- Water Resources,
- Geology and Soils,
- Noise and Airspace Clear Zones,
- Ecological Resources,
- Infrastructure,
- Land Use,
- Socioeconomic,
- Environmental Justice,
- Cultural Resources,
- Hazardous Materials and Waste Management, and
- Safety and Occupational Health



## **4.0 ENVIRONMENTAL CONSEQUENCES**

### **4.1 Introduction**

This section of the EA describes the potential environmental consequences of the Proposed Action by comparing proposed project activities with the potentially affected environmental components. Sections 4.1 through 4.13 provide discussions of potential environmental consequences for the Proposed Action.

Federal environmental laws and regulations were reviewed to assist in determining established threshold for assessing environmental impacts (If any) in fulfillment of NEPA requirements. Proposed Actions were evaluated to determine their potential to result in significant environmental consequences using an approach based on the interpretation of significance outlined in the CEQ regulations for implementing the procedural provisions of the NEPA (40 CFR 1500-1508).

Guidelines established by the CEQ (40 CFR 1508.27) specify that significance should be determined in relationship to both context and intensity (severity). The assessment of potential impacts and the determination of their significance are based on the criteria in 40 CFR 1508.27.

Based on these criteria, three levels of impact can be identified:

1. No Impact – No impact implied.
2. No significant Impact – An impact is predicted, but the impact does not meet the intensity/context significance criteria for the specific resources.
3. Significant Impact – An impact is predicted that meets the intensity/context significance criteria for the specific resource.

Refer to Section 5.0, Cumulative Impacts for the discussion of the Proposed Actions' incremental impacts.



## **4.2 Air Quality**

### **4.2.1 Proposed Action**

Impacts to air quality would be considered significant if the Proposed Action resulted in violation of a National Ambient Air Quality Standard (NAAQS), contributed to an existing or projected air quality violation, exposed sensitive receptors to substantial pollutant levels, exceeded de minimis emissions in nonattainment or maintenance areas, or exceeded any significance criteria established by a state implementation plan.

Patrick AFB must maintain compliance with the conditions specified in Permit No. 0090021-003-AV as part of the Proposed Action. Patrick AFB would assure that the addition or modification of new equipment would not cause or contribute to a violation of the NAAQS or AAQS. Impacts from the new equipment should not be significant if the proper permitting procedures are followed and equipment is operated using good engineering practice.

Anticipated emissions during construction include dust and particulates (PM-10) from land clearing and site preparation activities, exhaust products (NO<sub>x</sub>, SO<sub>2</sub>, CO, PM-10 and volatile organic compounds [VOCs] from heavy equipment and VOC emissions from application and use of paints, adhesives and solvents. Dust and particulates would also be produced from demolition of the old fire station after activation of the new facility. Although it is possible that particulate emissions from construction/demolition activities would exceed the 150 ug/m<sup>3</sup> PM-10 Federal and state standard within the immediate construction area, exceedances of PM-10 at off-site receptors would not occur. PM-10 refers to respirable particles of 10 microns or less, in diameter. Implementation of a twice-daily watering of exposed soil and use of dust masks by personnel would effectively mitigate the effects of particulate emissions at the construction site. All fugitive emissions from construction activities would be short term (less than-1 year) and would not degrade local or regional air quality.

Operation of the fire station would result in minimal fugitive emissions from periodic fueling of the emergency generator diesel fuel tank, exhaust products from periodic operation of the emergency diesel generator and fire/rescue vehicle exhaust emissions. Pollutant emissions from the diesel-powered generator would be infrequent because of the generator's standby





status and are not expected to impact the local/regional air quality status. All of the above emissions are currently associated with existing Patrick AFB fire station operations and would not increase from implementation of the Proposed Action.

Demolition of the existing fire station will disturb known ACM. Any ACM will be identified and removed prior to building demolition. ACM is regulated under the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, Subpart M, and is referred to as regulated asbestos containing material (RACM). FDEP Form 17-257.900, Notice of Asbestos Removal Project, will be forwarded to FDEP at least ten days prior to RACM removal. The RACM will be transported to an FDEP permitted asbestos disposal facility.

In conclusion, the anticipated emissions from construction and operation of the new crash rescue fire station would not violate the NAAQS, the Florida ambient air quality standards or Florida Department of Environmental Regulation (FDEP) air toxics regulations and would not measurably degrade local air quality.

#### **4.2.1.1 Clean Air Act Conformity**

Since Patrick AFB is located in an area in attainment for NAAQS, the general conformity rules, included in 40 Code of Federal Regulation (CFR) Parts 6.51 and 93, do not apply. Therefore, a conformity determination is not required.

#### **4.2.1.2 Stratospheric Ozone**

No Class I ozone depleting substances (ODSs) will be used under the Proposed Action. The only Class II ODSs to be used are associated with the air conditioning systems. Potential for release of Class II ODSs to the atmosphere would exist in the event of an accidental release during maintenance activities, or a system failure resulting in a leak. Therefore, the Proposed Action is not expected to adversely affect stratospheric ozone.

#### **4.2.2 No-Action Alternative**

Under the No Action Alternative, the Proposed Action would not occur. Air Quality impacts would remain the same as historical data since no change in activities would occur.



### **4.3 Water Resources**

#### **4.3.1 Proposed Action**

The proposed facility construction will result in new impervious surfaces which exceed the respective 5,000 square foot and 4,000 square foot permitting thresholds for facility and vehicular surfaces. The NPDES stormwater permit stipulates that a project specific stormwater pollution prevention plan is prepared and implemented to minimize the potential for non-point source run-off from the construction site.

Construction contractor would be required to submit a Notice of Intent (NOI) for a General NPDES Stormwater Permit is required for all construction projects five acres or larger in area. The contractors would be required to comply with the NPDES permit requirements, as well as, all applicable Federal, state and local laws and regulations during the construction period. Additionally, best construction management practices and adherence to the requirements in permits and in the construction design specifications would ensure impacts to water resources are minimized to the maximum extent possible. Refer to Section 4.7, Infrastructure and Transportation, addressing impacts to groundwater due to continued Patrick AFB development. Refer to Section 5.0 addressing cumulative impacts of increased water demand.

The nearest natural wetland and 100-year floodplain are at least 2,000 feet north or south of the project area. No impacts to these resources would occur from the Proposed Action.

Construction and operation of the fire station would not degrade Patrick AFB water resources. A stormwater drainage canal which discharges to the Banana River is located south of the proposed project vicinity, but would not be altered by construction of the fire station. A vegetated buffer at least fifty feet wide would remain between the canal and construction activities. The buffer will protect water quality within the canal and receiving waters.

#### **4.3.2 No Action Alternative**

If the No Action Alternative is chosen, existing facility would be maintained and new facility would not be constructed in support of changing operational requirements and the current substandard facility would continue to operate. There would be no changes to water



resources because there would be no change to the general types of ongoing activities at Patrick AFB.

#### **4.4 Geology and Soils**

##### **4.4.1 Proposed Action**

There would be no significant impacts to geology and soils from the implementation of the Proposed Action. By utilizing storm water best management practices during new construction, potential negative impacts on the geology and soils (e.g. sheet flow and gully erosion) would be avoided. By controlling these factors, siltation and turbidity of the canals and waterways would be minimized.

##### **4.4.2 No Action Alternative**

Under the No Action Alternative, existing facilities would be maintained and new facilities would not be constructed in support of changing operational requirements. There would be no significant impacts to geology and soils because there would be no change to general types of ongoing activities in the area.

#### **4.5 Noise**

##### **4.5.1 Proposed Action**

There would be no significant noise impacts expected from the implementation of the Proposed Action. Normal noise producing activities on the base would continue but would not be affected by the construction of new facilities, however, short-term increases of noise levels around demolition and construction sites would be reasonably expected to occur. Construction noise has not historically been a significant issue with construction projects in the past as demonstrated in previous EAs prepared for projects at Patrick AFB and retained in the offices of the 45CES/CEV.

The proposed facility is potentially located between 65 and 70 decibels noise contours, which are not considered significant (conversation between two people is in this range). Construction noise generated by heavy equipment, compressors and vehicles would be the primary noise concern associated with the new fire station. The anticipated low to moderate levels of the low-frequency noise would be consistent with industrial activities which typically occur on Patrick AFB.



The use of personal hearing protection would preclude impacts to construction personnel. Noise abatement devices on construction equipment would control noise to acceptable levels for nearby persons and wildlife outside of the construction area.

Operation of the fire station will not result in any adverse noise concerns. Daily operational activities are only expected to produce low to moderate levels of noise, and this would be restricted to occasional fire alarms and truck sirens. The anticipated operational noise should not exceed the OSHA criteria for exterior noise levels.

#### **4.5.2 No Action Alternative**

The No Action Alternative would result in no significant impacts to noise. Noise levels would continue to remain unchanged.

### **4.6 Ecological Resources**

#### **4.6.1 Proposed Action**

Compatible land use elements of the Patrick AFB General Plan and the Proposed Action, which is part of the Patrick AFB General Plan (ADP 5), would improve the sustainability of healthy, diverse and productive plant and animal communities reflective of a naturally balanced ecosystem. There are no rare or endangered plant species on Patrick AFB, and native plant communities as well as non-game species will be encouraged with planned development/land use considerations. More natural habitat would improve sustainability of the diverse varieties of plant and animal species that make their homes on Patrick AFB. Additionally, the Patrick AFB 45th SW Instruction 32-7001, *Exterior Lighting Management* (1 April 2003) would continue to afford additional protection for the sea turtle through proper management of existing and all new lighting. The Fire/Crash Rescue Station will follow 45 SWI 32-7001 and color rendition considerations will be assessed by 45 CES/CEV and the U.S. Fish and Wildlife Service in a Light Management Plan. Lighting impacts are not expected because the new site is further from the beach and to the west of the large, beachside AFTAC building, Facility 989. Furthermore, Patrick AFB would follow procedures set forth in the Integrated Natural Resources Management Plan (INRMP) for the base's ecological resources.

The nearest natural wetland and 100-year floodplain areas are at least 2,000 feet north or south of the project area. Neither wetland nor floodplain impacts should occur. There should



be no direct impacts to ecological resources as the selected construction site is on disturbed, semi-improved grounds that do not serve as sustainable habitat for any wildlife.

#### **4.6.2 No Action Alternative**

If the No Action Alternative were selected, the Proposed Action would not occur. There would be no impacts to ecological resources since there would be no change in activities.

### **4.7 Infrastructure**

#### **4.7.1 Proposed Action**

- **Drinking Water System**

The supply of domestic water from the City of Cocoa is more than adequate, at present. If more water is needed, arrangements with the City of Cocoa could be affected. If required, the City of Melbourne could also provide water. Therefore, no significant impacts would occur. Water consumption may increase slightly during construction and demolition activities, but would not exceed excess capacity and would be short term. Emergency situations with required use of water to control fires will increase water usage, but again it would be a short term effect.

- **Sanitary Sewer System**

The Patrick AFB sanitary sewer system appears to be adequate, at present. Infrastructure Improvements involving repairs to, and replacement of, certain sewer mains; lift stations and pumps in the lift stations are anticipated per the PAFB General Plan. The new Fire/Crash Rescue Station should not negatively impact the sanitary sewer system.

- **Storm Drainage System**

According to the Primary Storm Water Drainage System Map (Map 3-5, General Plan EA), a portion of the open stormwater drainage system is located adjacent the west side of the proposed Fire Station site. Stormwater retention will be incorporated into the design of the Fire Station to address stormwater treatment and prevent direct flow to surface waters. Open drainage systems will be protected from construction runoff by utilizing Best Management Practices, i.e. silt fencing, rain monitoring, etc.



- **Electric Systems**

Infrastructure Improvements involving repairs to, and replacement of electrical systems are anticipated per the PAFB General Plan. All old electrical equipment found in Facility 810, Fire Station, will be tested for PCBs within six months of disposal, and will be disposed of properly during the demolition phase. The new Fire/Crash Rescue Station should not negatively impact the PAFB electrical system.

- **Central Heating/Cooling System**

There is significant residual capacity of the Central Heating Plant because it operates only about three months of the year. The three boilers are approximately 10 years old and in excellent condition. With base-wide replacement of steam lines, the condition of the piping system is expected to be brought up to acceptable condition. The HVAC for the Fire Rescue Station will be in compliance with Ozone Depleting Chemical (ODC) restrictions. All refrigerants will be properly recovered and recycled. New units will use non-Class I ODCs such as R22, R123, R134a, or ammonia as the refrigerant. No significant impacts are expected to occur.

- **Natural Gas System**

The Patrick AFB natural gas system appears to be adequate, at present. The closest point to the Primary Natural Gas System according to Map 3-7 (General Plan EA) is approximately 1500 feet east-southeast of the Proposed Rescue Station. Use of natural gas by the new Fire Rescue Station is not anticipated. No significant impacts are expected to occur.

- **Liquid Fuels System**

The liquid fuel system includes all fuel delivery, storage and distribution facilities. All in-use tanks comply with current regulatory requirements. Facility 810 has two tanks, one vaulted diesel for backup generator use and one for chemical foam fire suppressant, associated with the Fire Station that have the potential to be relocated to the new proposed site. Soil testing will be required after tank removal to ensure former site is uncontaminated. If storage tanks are not relocated to the new Fire Rescue Station then they will be given to DRMO or the Generator Shop to reuse.





- **Communications**

Communications is the backbone of Patrick AFB and its missions. Therefore, only positive impacts would be expected from improvements and upgrades to its existing communication systems. This would allow Patrick AFB to carryout its missions now and in the foreseeable future.

- **Transportation**

The highway system in the vicinity of Patrick AFB is sufficient to meet the demand for current and future traffic and Patrick AFB is expected to experience only limited growth over the next few years. Therefore, maintenance and improvements to existing transportation systems would have positive impacts.

#### **4.7.2 No Action Alternative**

The No Action Alternative would have no anticipated impacts.

### **4.8 Land Use**

#### **4.8.1 Proposed Action**

The Proposed Action will not make a change in existing land use for the proposed project area. According to the Patrick AFB General Plan, the current and proposed future land use classification for the proposed project area is Industrial; therefore the Proposed Action would be consistent with Patrick AFB General Plan. Maps 3-9 and 3-10 in the Patrick AFB General Plan show the Present and Future Land Use designations.

The Proposed Action is not located with in the Clear Zone or Accident Potential Zone at Patrick AFB.

#### **4.8.2 No Action Alternative**

If the No Action Alternative is selected, new construction would not occur and land use designation will remain the same.

### **4.9 Socioeconomic Resources**

#### **4.9.1 Proposed Action**

The Proposed Action would not have significant impacts on the socioeconomic resources from its implementation. However, with the implementation of the Proposed Action,



improved fire protection for Patrick AFB would result, thus better protecting the Base assets. According to the DD Form 1391, "An economic analysis has been prepared comparing the alternatives of new construction, revitalization, leasing and status quo operation. Based on the net present values and benefits of the respective alternatives, new construction was found to be the most cost efficient over the life of the project." "Sustainable principles will be integrated in the design, development and construction of the project in accordance with Executive Order 13123 and other applicable laws and Executive Orders."

#### **4.9.2 No Action Alternative**

The new Fire/Rescue Station would not be built and therefore, would not meet operational or quality of life requirements.

#### **4.10 Environmental Justice**

##### **4.10.1 Proposed Action**

The Proposed Action was reviewed and found to be in compliance with Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Population and Low-Income Populations, and 32 CFR 989, Environmental Impact Analysis Process. Given the physical parameters of the Proposed Action, analysis indicates little or no potential for substantial environmental effect on any human population outside Patrick AFB boundaries.

##### **4.10.2 No Action Alternative**

The No Action Alternative would have no potential for substantial environmental effect on any human population outside Patrick AFB boundaries.

#### **4.11 Cultural Resources**

##### **4.11.1 Proposed Action**

There are no anticipated significant impacts to cultural resources from the implementation of the Proposed Action. Patrick AFB procedures, which are governed under State and Federal rules and regulations, are contained in the 45th SW Cultural Resources Management Plan.

A National Park Service archaeologist has made a detailed inspection of Patrick AFB, noting the nature, location, and extent of base construction disturbance. Although the archaeologist did not conduct an intensive survey of the area and no fieldwork was involved, his inspection was sufficient to conclude that is highly unlikely that Patrick AFB contains any



significant archaeological cultural resources that could be affected by future construction. A letter dated August 25, 1981 from the State Historic Preservation Office (SHPO) to the Commander of Patrick AFB concurred with this finding and the base was cleared for construction. A copy of the SHPO's letter is located in Appendix E of the General Plan EA.

Any construction contract would include an "unanticipated discovery" clause, which would specify that it, during construction activities, the selected contractor observes items that might have historical or archaeological value, such observations should be reported immediately to the appropriate authorities in compliance with applicable laws so that a determination can be made as to their significance and what, if any, special disposition of the finds should be made. The construction contractor should cease all activities that may result in the destruction of these resources and should prevent employees from trespassing on, removing or otherwise damaging such resources.

No facilities eligible or potentially eligible for listing under the NRHP will be impacted by the Proposed Action.

#### **4.11.2 No Action Alternative**

Under the No Action Alternative, the Proposed Action would not occur. There would be no impacts to cultural resources since no change in activities would occur. Patrick AFB would still have to follow procedures, which are governed under State and Federal rules and regulations, and contained in the 45th SW Cultural Resources Management Plan.

### **4.12 Hazardous Materials and Waste Management**

#### **4.12.1 Proposed Action**

There should be no significant impacts anticipated to hazardous materials and waste from the implementation of the Proposed Action. Hazardous materials and wastes will be encountered during demolition of Facility 810 in the forms of asbestos containing building materials (ACM) and lead paint. Hazardous materials would be handled in accordance with the Patrick AFB OPLAN 19-14 to ensure they are stored, transported and disposed of properly. Construction design specifications would continue to provide specific procedures to be followed by the construction or demolition contractor for management of hazardous materials and waste.



The use of hazardous materials (POLs, paints, etc.) and generation of small quantities of hazardous and non-hazardous wastes (waste paint, solvents and oil) generally occur with large construction projects, such as the Fire Station. With proper management, the small quantities of hazardous materials and wastes would pose no threat to human health or the environment.

Existing State and Federal laws require the proper storage and disposal of hazardous materials and wastes. To ensure compliance with applicable regulations, the construction contractor must manage hazardous materials and wastes in accordance with the 45th Space Wing Petroleum Products and Hazardous Waste Management Plan (OPLAN 19-14). Spill prevention and control for the Fire Rescue Station construction site would comply with the 45th Space Wing Hazardous Materials Response Plan (OPLAN 32-3) and Spill Prevention Control and Countermeasures Plan (SPCC)(OPLAN 32-3, Vol. V).

Operation of the new fire station is not expected to generate hazardous wastes. Non-hazardous petroleum wastes would be generated from maintenance of fire equipment, but would be properly handled and disposed of in accordance with installation procedures. Petroleum, oil, and lubricant (POL) items would be maintained in a properly designed storage facility and would be similarly managed under OPLAN 19-14. Hazardous material releases related to operation of the fire station would be mitigated under OPLAN 32-3 implementation.

Demolition of the existing fire station will disturb known ACM. Any ACM will be identified and removed prior to building demolition. ACM is regulated under the National Emission Standards for Hazardous Air Pollutants (NESHAP), 40 CFR Part 61, Subpart M, and is referred to as regulated asbestos containing material (RACM). FDEP Form 17-257.900, Notice of Asbestos Removal Project, will be forwarded to FDEP at least ten days prior to RACM removal. The RACM will be transported to the FDEP permitted CCAFS asbestos monofill for disposal. The CCAS landfill operator will be notified 24 hours prior to disposal.

Due to the age of the existing fire station, it is likely lead-based paints were used to coat at least some of the construction materials in this facility. The 45 CES/CEV office has prepared a guidance document for the removal of materials/coatings containing heavy metals. This document includes sampling procedures which will be implemented for the



proposed action prior to demolition. In addition, demolition debris may be sampled for Toxicity Characteristic Leaching Procedure (TCLP) of lead, cadmium, and chromium. If the results do not exceed the hazardous waste levels identified in Title 40 CFR Subpart C, Section 261.24, Table 1 (General Plan EA), demolition debris will not require disposal as hazardous waste. Non-hazardous demolition debris will be disposed of at the CCAFS Landfill, which is permitted by FDEP for construction and demolition debris.

#### **4.12.2 No Action Alternative**

There would be no significant impacts to hazardous materials and waste from the implementation of the No Action Alternative. Patrick AFB's OPLAN 19-24 would continue to provide guidance for handling of hazardous materials on the Base.

### **4.13 Safety and Occupational Health**

#### **4.13.1 Proposed Action**

Short-term health and safety impacts could occur as a result of ongoing construction activities at Patrick AFB under the Proposed Action. Use of established safety procedures and implementation of site-specific health and safety plans would minimize potential impacts to health and safety from proposed activities. The For Air Force operations, AFI 91-301 and AFI 91-302 contain the Air Force's Safety program, and provide the basis for worker safety programs. OSHA regulations are found in 29 CFR. Specific Patrick AFB programs which affect construction and demolition operations include the Asbestos and Lead-based Paint programs.

#### **4.13.2 No Action Alternative**

Under the No Action Alternative, the existing fire station facility would be maintained and a new facility would not be constructed. There would be no significant impacts to health and safety. There would be no change to the general types of ongoing activities fire rescue activities.

### **4.14. Installation Restoration Program**

No IRP sites will be impacted by the Proposed Action. However, in the event that contaminated soil, groundwater or unidentified waste is uncovered, the IRP office (CEVR) will be contacted to ensure proper identification, handling, and work clearances.



## **5.0 CUMULATIVE IMPACTS**

### **5.1 Definition of Cumulative Impacts**

Cumulative impact as shown in 40 CFR 1508.7 is "...the impact on the environment which results from the incremental impact of the action when added to other past, present, or reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

Potential cumulative impacts of the proposed activities are evaluated by determining (1) whether the Proposed Action would have an impact on a given resource and (2) what is the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions.

### **5.2 Past, Present, and Reasonably Foreseeable Actions**

Patrick AFB and its predecessor Banana River Naval Air Station have operated at the base since 1940. During this time period, environmental and land use policies evolved to meet the growing public awareness to environmental and land use issues and concerns. To address these issues and concerns, Patrick AFB has developed, over the years, environmental and land use policies and programs to guide the Patrick AFB in its day-to-day operations, which includes but not limited to:

- 45th Space Wing, Patrick AFB, FL., *Base General Plan (Comprehensive Plan)*. 2003.
- 45th Space Wing, Civil Engineering, Environmental Flight, Environmental Assessment for Development of Patrick Air Force Base, Florida, December 1997.
- 45th Space Wing, Civil Engineering, Environmental Flight, Integrated Natural Resource Management Plan (INRMP), 2001.
- 45th Space Wing, Civil Engineering, Environmental Flight, Cultural Resources Management Plan (CRMP), 2001.
- 45th Space Wing, Civil Engineering, Environmental Flight, 45th Space Wing Guide to Environmental Quality, 1996b.
- 45th Space Wing, OPLAN 19-14, 45th Space Wing Petroleum Products and Hazardous Waste Management Plan. May 2, 1995.
- CH2M HILL, Water System Study, Patrick Air Force Base, Florida. July 1998. Storm Water Pollution Prevention Plan





- 45th Space Wing, Draft OPLAN 32-3, Patrick Air Force Base Spill Prevention and Countermeasures Plan, March 2003.
- 45th Space Wing, Patrick AFB, FL, Bird Hazard Reduction Plan, OPLAN 91-212, January 1998.
- 45th Space Wing, Patrick AFB, FL, Patrick Air Force Base, Air Installation Compatible Use Zone Study, February 2001.

Patrick AFB has developed extensive programs and plans to address environmental and cultural issues that are associated with the base. The general goals and objectives for the installation, as outlined in the Patrick AFB General Plan, ensure that environmental impacts are reduced and/or eliminated. However, future individual actions may still require detailed environmental analysis and recommendations of feasible alternatives prior to construction and/or implementation. This procedure would provide efficient, environmentally sensitive operational support at the installation, and meet the installation's mission need for comprehensive planning.

### **5.3 Analysis of Cumulative Impacts**

#### **5.3.1 Air Quality**

Short-term air quality impacts could occur during construction operations associated with the Proposed Action at Patrick AFB and during the operation of equipment in support of the Proposed Action. Implementation of a twice-daily watering of exposed soil and use of dust masks by personnel would effectively mitigate the effects of particulate emissions at the construction site. All fugitive emissions from construction activities would be short term (less than-1 year) and would not degrade local or regional air quality. It is anticipated that the construction activities would not cause or contribute to a violation of the Federal NAAQS or the state AAQS.

Potential emissions generated from the addition of any new stationary sources from a Proposed Action, which could reasonably emit air pollutants, would need to be identified and quantified (i.e. diesel fuel tank, emergency generator, etc..). The need for a permit or permit exemption would need to be evaluated prior to the construction of any new or modified air polluting equipment. Individual projects would require an analysis of permitting requirements by following the 45th SW procedure for EIAP before the project may proceed. It should be noted that the identified potential emissions are currently associated with the



existing Patrick AFB fire station operations and should not increase from the implementation of the Proposed Action.

No Class I ozone depleting substances (ODSs) will be used under the Proposed Action.

Patrick AFB must maintain compliance with the conditions specified in Permit No. 0090021-003-AV as part of the Proposed Action. Patrick AFB would assure that the addition or modification of new equipment would not cause or contribute to a violation of the NAAQS or AAQS. Impacts from the new equipment should not be significant if the proper permitting procedures are followed and equipment is operated using good engineering practice.

### **5.3.2 Water Resources**

There would be minor cumulative impacts with the increase in impervious surfaces as a result of the Proposed Action, however this could be partially mitigated with the demolition of the existing fire station. Further mitigation could result if the proposed plans discussed in the General Plan for Patrick AFB are implemented. Many areas presently covered with impervious surfaces (asphalt and concrete) would be replaced with natural ground cover. This would allow more precipitation to infiltrate the ground surface and recharge the ground water system.

The proposed projects, generally described in Patrick AFB's General Plan and General Plan EA, would potentially be subject to the FDEP's Storm Water Rules and Regulations, as well as Patrick AFB's Storm Water Pollution Prevention Plan. The proposed projects must be submitted to Patrick AFB EPF for review and evaluation prior to implementation.

### **5.3.3 Geology and Soils**

No cumulative effects are anticipated. By utilizing storm water best management practices during demolition and new construction activities, potential negative impacts on the geology and soils (e.g. sheet flow and gully erosion) would be avoided. By controlling these factors, siltation and turbidity of the canals and waterways would be minimized.

### **5.3.4 Noise**

There would be no long term noise impacts expected from the implementation of the Proposed Action. No cumulative effects are anticipated. Normal noise producing activities



on the base would continue but would not be affected by the construction of new facilities, however, short-term increases of noise levels around demolition and construction sites would be reasonably expected to occur. Construction noise has not historically been a significant issue with construction projects in the past as demonstrated in previous EAs prepared for projects at Patrick AFB and retained in the offices of the 45CES/CEV.

### **5.3.5 Ecological Resources**

There should be no cumulative impacts on the ecological resources from the Proposed Action. There are no rare, threatened or endangered plant or animal species on either the existing fire station site or the new proposed site. The 45th SW Instruction 32-7001, *Exterior Lighting Management* (1 April 2003), provides protection for the sea turtle through proper management of existing and all new base lighting. Exterior lighting would be demolished at the existing fire station once the new fire station is constructed and operational with exterior lighting in compliance with light management requirements.

Compatible land use elements of the Patrick AFB General Plan and the Proposed Action, which is part of Area Development Plan 5, would improve the sustainability of diverse plant and animal communities by keeping and creating open space areas. Additionally, Patrick AFB would follow procedures set forth in the Integrated Natural Resources Management Plan (INRMP) for proper management of the Base's ecological resources. Any rising issues would be assessed by 45 CES/CEV, Environmental Flight, for impacts to natural/ecological resources and handled accordingly.

### **5.3.6 Infrastructure**

Patrick AFB is expected to experience only limited growth over the next few years, and the current infrastructure appears to be adequate, at present and for the near future. No cumulative impacts are anticipated from the Proposed Action, since it will replace an existing facility. However, the old facility is substandard for its intended use and its separated location makes it an unlikely candidate for reuse. Demolition is the most economical means to handle the existing fire station, Facility 810.

The implementation of the Proposed Action will improve energy efficiency with light management controls and proper insulation/construction materials, water usage with



installation of more efficient showers/toilets and irrigation on timers, and stormwater treatment methods with actual design adhering to permit requirements.

### **5.3.7 Land Use**

A primary goal of effective land use planning is to create an environment for people to work, play, and live that is functional, efficient, and pleasant. Throughout the planning process, analysts evaluate existing land use and transportation systems, using site and facility planning to produce an arrangement of compatible and functional activities that address future requirements. By using a collaborative process, land use planning results in a plan that provides a logical and realistic direction for future development on base.

At Patrick AFB, land use planning is constrained by a number of factors, including historic development patterns, land configurations, systems technology and military strategy. The array of land uses and the locations of buildings, roads and utilities have changed over time, as missions and needs have evolved. The placement of activities has also responded to the physical and natural environments that existed when each use was developed. Therefore, planning for the location of infrastructure, the proximity of functionally related activities, and the specific needs of installation personnel has been a challenging process of overcoming land use obstacles at Patrick AFB.

If the Proposed Action is undertaken and the implementation of planned projects set forth in the Patrick AFB General Plan, the majority of land uses on Patrick Air Force Base would be appropriately located and functionally efficient, thus creating a positive cumulative impact. The most significant revisions to the land use plan involve the relocation of Industrial uses from the river community area, and the removal of structures from the Northern Clear Zone. These changes would not only bring Patrick AFB into compliance with Airfield Criteria, they would also enhance the Quality of Life for base personnel. The land uses in the Clear Zone area would become Open Space, promoting visual quality in the Main Base area. New Facilities and improvements in the river community area would create a public gathering place in an environment that would capitalize on its riverside location. Further implementation of the recommendations of the Area Development Plans would supplement the positive changes that have been accomplished, and enhance the working and living environment at Patrick AFB.



### **5.3.8 Socioeconomic Resources**

Minor long term cumulative impacts are anticipated from the Proposed Action with respect to socioeconomic resources, since the Proposed Action would replace an existing facility. Short term impacts would occur during the construction phase of the Proposed Action, from the addition of temporary construction jobs, but no anticipated affect on long term impacts to the labor force. Therefore, minor, short-term beneficial socioeconomic impacts associated with construction activities are anticipated for local employment and personnel income. In addition, increased construction at Patrick AFB would directly benefit the local economy through the spending of business and personal income generated from the construction and operation of the Proposed Action. In addition, the implementation of the Proposed Action would improve fire protection capabilities for Patrick AFB, which would result in better protection for the Base assets.

### **5.3.9 Environmental Justice**

No cumulative impacts are anticipated from the proposed action with respect to environmental justice, since the construction will occur within the boundaries of Patrick AFB.

### **5.3.10 Cultural Resources**

No cumulative impacts are anticipated from the proposed action with respect to cultural resources.

### **5.3.11 Hazardous Materials and Waste Management**

No cumulative impacts are anticipated from the Proposed Action with respect to Hazardous Materials and Waste Management. Waste amounts would increase with the demolition of the old facility and construction of the new facility, but this would be short term in nature. Long term impacts are not anticipated, since the Proposed Action will replace an existing facility and operation.

### **5.3.12 Safety and Occupational Health**

With the demolition of the old facility and the construction of the new facility, positive cumulative impacts are anticipated with respect to safety and occupational health. The old facility is substandard and was designed to accommodate smaller and less capable fire protection equipment and does not meet operational or quality of life requirements. The floor on the west side of vehicle bay, collapsed under the weight if a P-22 fire truck. Cracks



in the slab-on-grade foundation and walls are common throughout the facility. Roof and windows leak during rain storms. The heating and air conditioning system does not provide proper temperature control throughout the facility. There is no system to extract exhaust fumes from the fire truck creating air quality health problems which is in violation of National Fire Protection Code and Occupational Safety Health Act. There is no storage for firefighting equipment; therefore, space in the stalls is being used as storage. The facility does not have a fire suppression system. In the past year, over \$120,000 worth of emergency repairs were required to keep the facility running.

In addition, the implementation of the Proposed Action would improve fire protection capabilities for Patrick AFB, which would result in better protection for the Base assets.

#### **5.4 Irreversible and Irretrievable Commitment of Resources**

The Proposed Action would result in some irreversible and irretrievable commitment of resources such a wood, concrete, minerals and labor. This commitment of resources is not significantly different from that necessary for many other similar building programs. It is similar to the building activities that have been carried out on Patrick AFB over recent years.





## **6.0 REFERENCES**

45th Space Wing, Patrick AFB, FL. Base General Plan (Comprehensive Plan). 2003.

45th Space Wing, Civil Engineering, Environmental Flight, Environmental Assessment for Development of Patrick Air Force Base, Florida, December 1997.

45th Space Wing, Civil Engineering, Environmental Flight, Integrated Natural Resource Management Plan (INRMP), 2001.

U.S. Air Force, 45th Space Wing, Cultural Resource Management Plan for Cape Canaveral Air Force Station, Patrick Air Force Base, Malabar transmitter Annex, and Jonathan Dickinson Missile Tracking Annex, Florida, December 2001.

45th Space Wing, Civil Engineering, Environmental Flight, 45th Space Wing Guide to Environmental Quality, 1996b.

45th Space Wing, Patrick AFB, Air Installation Compatible Use Zone Study, February 2001

45th Space Wing, OPLAN 19-14, 45th Space Wing Petroleum Products and Hazardous Waste Management Plan. May 2, 1995.

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CH2M HILL. Water System Study, Patrick Air Force Base, Florida. July 1998.

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Oklahoma Biological Survey. Integrated Natural Resources Management Plan, Patrick Air Force Base 1995-2000.

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SpecPro, Inc. and Dynamac Corporation, 45th Space Wing, Environmental Assessment for 920th Rescue Group, 301st and 39th Rescue Squadrons, Patrick Air Force Base, Florida. October 2003.

Vista Technologies Inc. Environmental Assessment, Development and Maintenance of Patrick Air Force Base, Florida. January 1997.

Vista Technologies Inc. Environmental Assessment Manatee Cove Marina Expansion, Patrick Air Force Base, Florida. May 1996.

Vista Technologies Inc. Environmental Assessment, Youth Center Alteration, Patrick Air Force Base. June 1995.

Canter, Larry W., Environmental Impact Assessment, second Edition, Irwin McGraw Hill, 1996

Federal Emergency Management Agency, Flood Insurance Rate Map - Brevard County Florida and Incorporated Areas. Community-Panel Numbers: 12009C0388E, 12009C0451E and 12009C0453E, April 3, 1989.

U.S. Department of Agriculture's Soil Conservation Service and in cooperation with University of Florida Agricultural Experiment Stations, Soil Survey of Brevard County, Florida, November 1974.

Oddy, D.M., E.D. Stolen, P.A. Schmalzer, V.L. Larson, P. Hall, and M.A.Hensley. 1997. Threatened and Endangered Species Survey for Patrick Air Force Base, Florida, NASA Technical Memorandum 112880. 95 pp.



## **7.0 PERSONS AND AGENCIES CONTACTED**

1. Dale Hawkins  
Environmental Planner  
Natural /Cultural Resources Manager  
45th Space Wing  
45CES/CEVP  
Patrick AFB, Florida
2. Keitha Dattilo-Bain  
Environmental Planner  
Natural /Cultural Resources Manager  
45th Space Wing  
45CES/CEVP  
Patrick AFB, Florida
3. Michael Furtado  
Community Planner  
45th Space Wing  
45CES/CEVP  
Patrick AFB, Florida
4. Wesley J. P. Westphal II  
Environmental Planner  
45th Space Wing  
45CES/CEVP  
PAFB, Florida



## **8.0 LIST OF PREPARERS**

1. David B. Harkness  
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Norman, Oklahoma
2. Laura Worthen  
Air Quality  
The Benham Companies, LLC  
Norman, Oklahoma
3. Diane Abernathy, P.E.  
Regulatory Compliance  
The Benham Companies, LLC.  
Norman, Oklahoma
4. Kimberly Wahnee, E.P.I.  
Air Quality Specialist  
The Benham Companies, LLC  
Norman, Oklahoma
5. Larry Johns  
Drafting & Design  
Automated Designs, Inc.  
Norman, Oklahoma
6. Mary Gilkison  
Hydrogeologist  
The Benham Companies, LLC  
Norman, Oklahoma
7. Stan Bussey  
Archeologist  
APD Services, L.L.C.  
Norman, Oklahoma



**APPENDIX D**  
**REGULATORY TABLE**



Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
Air Force Instruction (AFI) 32-7040	Estimate air emissions	Tracking air emissions for PAFB for inclusion in the Air Emissions Inventory (AEI).	United States Air Force (USAF)
AFI 32-7041	Assess Proposed Action to minimize impacts to wetlands	Manage USAF lands with the goal of no net loss of wetlands.	AF
Clean Air Act (CAA)	Title V Air Operating Permit	Comply with existing Title V Air Operating Permit.	US Environmental Protection Agency (EPA), Florida Department of Environmental Protection (FDEP)
Clean Water Act (CWA)	Section 401 water quality certification*	FDEP review of CWA Section 404 dredge and fill permit applications submitted to the USACE to certify that project will not cause or contribute to a violation of Florida water quality standards.	FDEP; USACE
CWA	Section 402 national pollutant discharge elimination system (NPDES) storm water construction permit	Obtain permit for the discharge of storm water for projects disturbing one (1) acre or more that has the potential to impact surface waters.	EPA; FDEP; St. John's River Water Management District (SJRWMD)
CWA	Section 404 dredge and fill permit*	Obtain permit from the USACE for any project activities resulting in the discharge of dredged or fill material into waters of the US, including wetlands.	USACE, in consultation with EPA; SJRWMD
Endangered Species Act (ESA)	Consultation with USFWS and Florida Fish and Wildlife Conservation Commission (FWCC) and if necessary, obtain incidental take permit	Conserve ecosystems that support T&E species. Section 7 requires federal agencies to insure that any action authorized, funded or carried out by them is not likely to jeopardize the continued existence of listed species or modify their critical habitat. Comply with existing T&E permits.	USFWS and FWCC
Executive Order (EO) 11990	Finding of No Practicable Alternative if wetlands would be impacted	Minimize the destruction, loss or degradation of wetlands, and preserve and enhance the natural and beneficial values of wetlands.	DoD
Federal Coastal Zone Management Act (CZMA)	Activities within the designated coastal zone (entire State of	Federal agency activities must be consistent, to the maximum extent practicable, with approved State	FDEP





Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
and Florida Coastal Management Act	Florida)*	management programs.	
Florida Endangered Species Protection Act (ESPA)	Consultation with FWCC	Prohibits the intentional wounding or killing of any fish or wildlife species designated as "endangered", "threatened" or of "special concern" and intentional destruction of their nests.	FWCC
Florida Endangered and Threatened Species Act (FETSA)	Consider impacts to T&E species when planning and implementing projects	Establishes the conservation and wise management of T&E species as State policy.	FWCC
Florida Mangrove Trimming and Preservation Act	Mangrove removal, trimming or alteration permit	Prohibits removing, trimming, and altering mangroves without a permit. Treating mangroves with herbicides is prohibited. USAF under AFI 32-7041 promotes protection of state protected plants when practical.	FDEP
Marine Mammal Protection Act	Avoid impacts to Florida manatee populations	Establishes a federal responsibility to conserve marine mammals with management vested in the Department of Interior for sea otter, walrus, polar bear, dugong, and manatee.	USFWS
Migratory Bird Treaty Act (MBTA)	Consultation with USFWS as necessary and compliance with applicable permits	Prohibits destruction of the eggs or nest of migratory birds without a permit.	USFWS
National Ambient Air Quality Standards (NAAQS) and Florida Ambient Air Quality Standards (FAAQS)	Ambient air quality maintenance	Implement measures to protect health and safety, property and minimize nuisances such as impaired visibility.	USEPA; FDEP
National Historic Preservation Act (NHPA)	Consultation with Florida State Historic Preservation Office (SHPO)	Consult with SHPO regarding potential affects to a site that is listed or eligible for listing in the National Register of Historic	SHPO



Law or Rule	Permit/Action(s)	Requirement	Agency or Organization
		Places	
Preservation of Native Flora of Florida Act (PNFFA)	Avoid impacts to T&E and "commercially exploited" plants	Prohibits willfully destroying or harvesting T&E and "commercially exploited" plants	Florida Department of Agriculture and Consumer Services (DOACS)
Various*	Environmental Resource Permit*	Obtain permit for any activity that could affect wetlands, alter surface water flows or contribute to water pollution (stormwater management, etc.).	FDEP, SJRWMD

\*Florida has a comprehensive State regulatory program that regulates most (upland, wetland, and other surface water) alternations. An Environmental Resource Permit (ERP) serves as multi-purpose permit that covers mangrove impacts, alteration of uplands, Florida Coastal Zone Management and water quality certification requirements (if a CWA Section 404 permit is required for dredge and fill activities). The ERP Program is implemented jointly by FDEP and local water districts (SJRWMD) with U.S. Army Corps of Engineers involvement when applicable.



**APPENDIX E**  
**SHPO LETTER**  
**AUGUST 25, 1981**



FLORIDA DEPARTMENT OF STATE  
George Firestone  
Secretary of State

DIVISION OF ARCHIVES, HISTORY  
AND RECORDS MANAGEMENT  
L. Ross Morrell, Director  
(904) 488-1480

August 25, 1981

In reply refer to:

Ms. Rowan Comer-Tesar  
Project Archaeologist  
(904) 487-2333

Colonel Marvin L. Jones  
Commander, Headquarters  
Eastern Space and Missile Center (AFSC)  
Patrick Air Force Base, Florida 32925

Re: Cultural Resource Assessment  
"Report for Visit to Patrick Air Force Base, Cape  
Canaveral Air Force Station, and Six Communications  
Annexes, Brevard County, Florida" by Wilford M. Husted  
(1981)

Dear Colonel Jones:

In accordance with the procedures contained in 36 C.F.R., Part 300 ("Procedures for the Protection of Historic and Cultural Properties"), we have reviewed the above referenced project for possible impact to archaeological and historical sites or properties listed, or eligible for listing, in the National Register of Historic Places. The authorities for these procedures are the National Historic Preservation Act of 1966 (Public Law 89-665) as amended by P.L. 91-243, P.L. 93-54, P.L. 94-422, P.L. 94-458, and P.L. 96-515 and Presidential Executive Order 11593 ("Protection and Enhancement of the Cultural Environment").

Based on the above cited survey results we concur with Mr. Husted in concluding that a systematic archaeological and historic site assessment survey of Patrick Air Force Base and the six tracking and communications annexes is not necessary. Furthermore, it is the opinion of this agency that proposed work in those seven areas is unlikely to affect any sites listed or eligible for listing on the National Register of Historic Places, and may proceed without further involvement with this agency.

FLORIDA-State of the Arts

The Capitol • Tallahassee, Florida 32301 • (904) 488-3680

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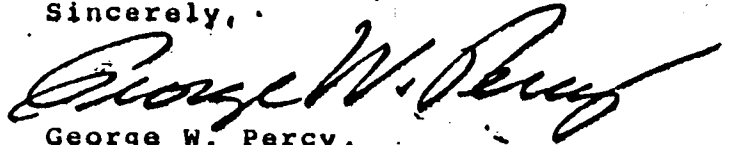
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Colonel Marvin L. Jones  
August 25, 1981  
Page Two

If you have any questions concerning our comments, please do not hesitate to contact us

On behalf of Secretary of State George Firestone, thank you for your interest and cooperation in preserving Florida's historic resources.

Sincerely, .



George W. Percy,  
Deputy State Historic  
Preservation Officer

GWP:Ceh

cc: Wilfred M. Husted



## **APPENDIX F**

### **COMMENTS FROM THE FLORIDA STATE CLEARINGHOUSE**



Jeb Bush  
Governor

# Department of Environmental Protection

Marjory Stoneman Douglas Building  
3900 Commonwealth Boulevard  
Tallahassee, Florida 32399-3000

Colleen M. Castille  
Secretary

August 30, 2004

Mr. Wesley J. Westphal  
Department of the Air Force  
45 CES/CEV  
1224 Jupiter Street, MS 9125  
Patrick AFB, FL 32925-3343

RE: Department of the Air Force – Draft Environmental Assessment for the General Plan and Maintenance of Patrick Air Force Base – Brevard County, Florida.  
SAI # FL200407167945C

Dear Mr. Westphal:

The Florida State Clearinghouse, pursuant to Executive Order 12372, Gubernatorial Executive Order 95-359, the Coastal Zone Management Act, 16 U.S.C. §§ 1451-1464, as amended, and the National Environmental Policy Act, 42 U.S.C. §§ 4321, 4331-4335, 4341-4347, as amended, has coordinated the review of the above-referenced Draft Environmental Assessment (DEA).

The Florida Department of Transportation (FDOT) states that the proposed project appears to call for changes in the use of beachside areas along State Road A1A, including demolition of buildings and restoration of dune habitat. If changes in access points to A1A are anticipated, the applicant is advised to consult the local FDOT maintenance unit for permitting requirements. Demolition and construction activities should be conducted in such a way as to minimize congestion and debris on A1A. The FDOT notes that dune restoration will restore a natural barrier that protects the roadway and thus be a benefit. For further information, please contact Mr. Stephen Tonjes, FDOT District Five, 719 S. Woodland Boulevard, DeLand, FL 32720, phone (386) 943-5394.

The St. Johns River Water Management District (SJRWMD) notes that part of the plan appears to include mangrove trimming. If the trimming is not associated with other development areas, the Air Force will need to obtain a permit from the Florida Department of Environmental Protection for the mangrove trimming in accordance with the Mangrove Trimming and Preservation Act (Section 403.9321, *Florida Statutes*). Some of the maintenance work in the ditches may require permit(s) from SJRWMD. In addition, impacts to floodplains and wetland areas will require permits from SJRWMD. Most new development areas will require a permit from SJRWMD, unless they are specifically exempt or fall below permitting thresholds. Please contact Michelle Reiber, Supervising Regulatory Scientist, in the Palm Bay service center at (321) 676-6615 or mreiber@sjrmwnd.com if there are any questions.

"More Protection, Less Process"

Printed on recycled paper.

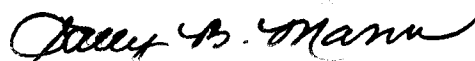


Mr. Wesley Westphal  
August 30, 2004  
Page 2 of 2

Based on the information contained in the DEA and the enclosed state agency comments, the state has determined that the allocation of federal funds for the above-referenced project is consistent with the Florida Coastal Management Program (FCMP). The applicant must, however, address the concerns identified the FDOT and SJRWMD as described in the attached comments. All subsequent environmental documents must be reviewed to determine the project's continued consistency with the FCMP. The state's continued concurrence with the project will be based, in part, on the adequate resolution of any issues identified during this and subsequent reviews.

Thank you for the opportunity to review the proposed project. If you have any questions regarding this letter, please contact Ms. Suzanne E. Ray at (850) 245-2172.

Sincerely,



Sally B. Mann, Director  
Office of Intergovernmental Programs

SBM/ser

Enclosures

cc: Charlotte Hand, FDOT  
Geoffrey Sample, SJRWMD



# Florida

Department of Environmental Protection

"More Protection, Less Process"



Categories

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Project Information	
<b>Project:</b>	FL200407167945C
<b>Comments Due:</b>	August 15, 2004
<b>Letter Due:</b>	August 31, 2004
<b>Description:</b>	DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT FOR THE GENERAL PLAN AND MAINTENANCE OF PATRICK AIR FORCE BASE - BREVARD COUNTY, FLORIDA.
<b>Keywords:</b>	USAF - DEA FOR THE GENERAL PLAN AND MAINTENANCE OF PATRICK AFB - BREVARD CO.
<b>CFDA #:</b>	12.200
Agency Comments:	
<b>STATE - FLORIDA DEPARTMENT OF STATE</b>	
No Comment/Consistent	
<b>COMMUNITY AFFAIRS - FLORIDA DEPARTMENT OF COMMUNITY AFFAIRS</b>	
Released Without Comment	
<b>ENVIRONMENTAL PROTECTION - FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION</b>	
No comments	
<b>FISH and WILDLIFE COMMISSION - FLORIDA FISH AND WILDLIFE CONSERVATION COMMISSION</b>	
NO COMMENT BY STEVE LAU ON 7/26/04.	
<b>TRANSPORTATION - FLORIDA DEPARTMENT OF TRANSPORTATION</b>	
The general plan calls for changes in the use of beachside areas along State Road A1A, including demolition of buildings and restoration of dune habitat. If changes in access points to A1A are anticipated, the local maintenance unit should be consulted for permitting requirements, and demolition and construction should be conducted in such a way as to minimize congestion and debris on A1A. Dune restoration will be a benefit by restoring a natural barrier that protects the roadway. For further information, please contact Mr. Stephen Tonjes, FDOT District Five, 719 S. Woodland Boulevard, DeLand, FL 32720, Phone (386) 943-5394.	
<b>ST. JOHNS RIVER WMD - ST. JOHNS RIVER WATER MANAGEMENT DISTRICT</b>	
Part of the plan appears to include mangrove trimming. If the trimming is not associated with other development areas, the Air Force would need to obtain a permit from FDEP for the mangrove trimming in accordance with the Mangrove Trimming and Preservation Act (Section 403.9321) Some of the maintenance work in the ditches may require permit(s) from SJRWMD. In addition, impacts to floodplains and wetland areas would require permits from SJRWMD. Most new development areas would require a permit from SJRWMD, unless they are specifically exempt or fall below permitting thresholds. Please contact Michelle Reiber, Supervising Regulatory Scientist, in the Palm Bay service center at (321) 676-6615 or mreiber@sjrmwnd.com if there are any questions.	
<b>ENVIRONMENTAL POLICY UNIT - OFFICE OF POLICY AND BUDGET, ENVIRONMENTAL POLICY UNIT</b>	
No Comment	
<b>E. CENTRAL FL RPC - EAST CENTRAL FLORIDA REGIONAL PLANNING COUNCIL</b>	
The proposed project, as presented for review and when considered in its entirety, is consistent with the adopted Goals, Policies and Objectives of the East Central Florida Regional Planning Council.	
<b>BREVARD -</b>	

For more information please contact the Clearinghouse Office at:

3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000

COUNTY: BREVARD

SAI-USAF  
2004-7003

DATE: 7/16/2004

COMMENTS DUE DATE: 8/15/2004

CLEARANCE DUE DATE: 8/31/2004

SAI#: FL200407167945C

MESSAGE:

STATE AGENCIES	WATER MNGMNT. DISTRICTS	OPB POLICY UNIT	RPCS & LOC GOVS
COMMUNITY AFFAIRS	ST. JOHNS RIVER WMD	ENVIRONMENTAL POLICY UNIT	
ENVIRONMENTAL PROTECTION			
FISH and WILDLIFE COMMISSION			
X STATE			
TRANSPORTATION			

The attached document requires a Coastal Zone Management Act/Florida Coastal Management Program consistency evaluation and is categorized as one of the following:

- Federal Assistance to State or Local Government (15 CFR 930, Subpart F). Agencies are required to evaluate the consistency of the activity.
- X Direct Federal Activity (15 CFR 930, Subpart C). Federal Agencies are required to furnish a consistency determination for the State's concurrence or objection.
- Outer Continental Shelf Exploration, Development or Production Activities (15 CFR 930, Subpart E). Operators are required to provide a consistency certification for state concurrence/objection.
- Federal Licensing or Permitting Activity (15 CFR 930, Subpart D). Such projects will only be evaluated for consistency when there is not an analogous state license or permit.

Project Description:

DEPARTMENT OF THE AIR FORCE - DRAFT ENVIRONMENTAL ASSESSMENT FOR THE GENERAL PLAN AND MAINTENANCE OF PATRICK AIR FORCE BASE - BREVARD COUNTY, FLORIDA.

To: Florida State Clearinghouse

AGENCY CONTACT AND COORDINATOR (SCH)  
3900 COMMONWEALTH BOULEVARD MS-47  
TALLAHASSEE, FLORIDA 32399-3000  
TELEPHONE: (850) 245-2161  
FAX: (850) 245-2190

EO. 12372/NEPA Federal Consistency

- |  |   |
|--|---|
| <input checked="" type="checkbox"/> No Comment | <input checked="" type="checkbox"/> No Comment/Consistent |
| <input type="checkbox"/> Comment Attached      | <input type="checkbox"/> Consistent/Comments Attached     |
| <input type="checkbox"/> Not Applicable        | <input type="checkbox"/> Inconsistent/Comments Attached   |
|  | <input type="checkbox"/> Not Applicable                   |

From: Division of Historical Resources  
Division/Bureau: Bureau of Historic Preservation

Reviewer: S. EDWARDS

Date: 8-7-04

NADA

Barbara E. Mattick  
Historic Preservation Supervisor

8/9/04

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